AMERICAN ANNALS

OF

The Deaf,

Organ of the Convention of American Instructors of the Deaf,

EDITED BY

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UNDER THE DIRECTION OF

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AMERICAN ANNALS OF THE DEAF

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ARE OUR DEAF ALL DEAF?

To the common layman this question no doubt would seem nonsensical. To him the deaf present one large social class—all being of the same type and possessing the same physical conditions. But we who have the duty and the task of educating the deaf so as to make them useful and law-abiding citizens and efficient coworkers for the community's welfare, must for various physical and pedagogical reasons consider them not as one, but as made up of four or five distinct individual classes, each because of its character requiring different means of educational approach. Therefore our answer to this very sensible question is an emphatic "No." There are many "hearing" deaf.

It is not my intention to take these individual classes of the deaf, treat of their physical differences, tell why they require different avenues of mental development, and describe what these avenues are. The purpose of this article is to attempt to focus the attention of all school authorities upon the obvious fact that there is one class of deaf children who are not receiving their just due in their struggles for an education. They are not getting "a square deal" would be putting it more to the point. They are overlooked and are not treated

with careful consideration. This class is the semi-deaf, or those children possessing residual hearing of varying degrees ranging all the way from mere sound perception through the different gradations to the hard of hearing. In any school for the deaf, we can find a great number of pupils who would come under this class of "residuals." No matter how slight a degree of hearing a child may have, we should endeavor to cultivate and develop that remnant of hearing to the end of making it a channel for educating the child or to the end of using it as a means of speech correction. It means much to the child's welfare and future happiness. It goes without saying that the ear is the normal avenue for mental development and that the eye is a mere substitute at best. We should use every possible aid to select these children and give them every available opportunity which is justly theirs to attain as normal a mental growth and development as is possible.

I do not speak from mere casual classroom observation, although to an experienced teacher of the deaf this would be sufficient proof. I base my opinion not only upon my classroom experiences, but also upon stronger and more substantial evidence—that of having had the opportunity of examining many pupils on entrance. To be sure the examination is not so scientific and final as one would expect of an ear specialist, but it is sufficient to conclude that there are on an average 40 per cent of our deaf children who pass through our hands and under our instruction as deaf, when in fact they really have some remnant of hearing, which of course, if allowed to remain dormant, eventually

becomes nil. Now what are we doing for this more fortunate class of handicapped children toward their education? Should we not be glad to detect these "remnants" of hearing and put them to good and proper use? Should we not endeavor to afford these children what is justly theirs? Let us awake to our grave responsibilities and give them a "fair show."

There is no doubt that educating these children "to hear" and obtain a "hearing" vocabulary and a "hearing" command of language entails extra labor and expense. But then a conscientious board of directors or state board that has the future welfare and happiness of all children as its chief interest and aim will always listen to and aid any just and fruitful endeavor of this character. The board would or should be willing to appropriate sufficient moneys to provide for all necessary means required to "bring to life" this dormant hearing and so help lead out the greatest possibilities that are in these children.

It must be remembered that when we speak of "hard of hearing," we do not mean children who have only a slight impairment of hearing and who are still able to hear spoken language at a distance of five feet. These children do not come under our category. They should never be allowed to attend our schools for the deaf. The public schools should make special arrangements for them. When we use the term "hard of hearing" in this paper, we have in mind those children who, having lost their full power of actual hearing, still retain a great degree of sound perception, but not a high degree of actual hearing ability—the ability to interpret new auditory impres-

sions readily. We should bear in mind that our children who possess "hearing" do not possess that power in the ordinary sense. They have what is termed sound perception. Because of some sickness, disease, or aural defect from birth, their hearing has been greatly impaired, weakened, or partially destroyed. Of course, if the defective hearing is due to physical obstructions, such as adenoids, tonsils, wax, or the like, the hearing may be improved and sometimes restored after careful operations. But aside from these operations, the fact remains that the power of hearing in these "residuals" cannot be bettered or improved. It is impossible to restore the power to its normal state. This is not our ultimate aim. Our aim is to improve the sense of sound perception—the power of perceiving sound. Our purpose is not to permit the auditory nerve to the auditory center to become atrophied and useless. We desire to utilize what little nerve tissue there is and keep it alive and active and have it afford the child an asset in his mental development. It is commonly known that tissue once dead or atrophied is never regenerated. We endeavor to develop the speech and language centers as far as possible through the natural course. For it is self-evident that the auditory and speech elements are the essentials for language. These are the first elements in man that are developed. In the normal person they develop without serious endeavor—without instruction. But with the semi-deaf, we must instruct them as to the use of these elements. We have to develop these elements or factors. And above all things, when we impart knowledge in this way, we are pursuing the normal

course and, therefore, are affording these children the opportunity of approximating a normal mental development.

Auricular training is by no means a new or recent idea. It dates back over two hundred years. It has always been considered of vital importance and should be so today. We are not making a wonderful discovery, but if we follow this method faithfully and conscientiously we shall be giving these children a wonderful blessing. This is more important than the mere knowing that there is such a system. Let us actually carry on and carry out this worthy and beneficial training and make it an essential part of our curriculum.

Let us imagine ourselves as auricular teachers in a large institution. It has been our duty to select all possible "residuals," as we may designate them, with whom we are to carry on our "reëducation of the hearing." As has been said before, these residuals will naturally be made up of children possessing varying degrees of hearing, ranging from slight sound perception to "limited hearing" (actual hearing) of spoken words. Therefore, it is implied that there are several determining factors that must necessarily be carefully considered and weighed before attacking our no doubt arduous but fruitful task. We should look into each individual case and note the following: the time of becoming deaf, whether or not the child had ever experienced normal hearing; the cause of the deafness, whether or not it was congenital or the result of sickness or accident; the nature of the sickness or disease; the native mental ability before becoming deaf. By being cognizant of these necessary and valuable

facts, we are better prepared to proceed with our work. As experience would show us, we should first weed out those who because of some physical reason appear mentally below par. Many times we find pupils who retain some degree of hearing, but who also have some mental defect. These children should be arranged for in special classes, and should not be classed with the other deaf pupils. After this weeding out process, we shall find a group of residuals who are congenitally deaf, but who have some sense of sound perception of varying degrees. These children merely perceive sound; they are not able to distinguish one sound from another. The spoken word or spoken language is a mere unintelligible conglomeration of sounds. They must be taught to "hear" sounds and distinguish them. They must be educated to interpret these at first meaningless sounds and words into ideas. They must gradually become able to produce verbal images and to grasp these oft-repeated auditory impressions. Perhaps with this particular group we may not be able to proceed very far in imparting instruction, that is, to carry on their entire education and mental development through auricular training. But this does not free us from the duty of improving their articulation and speech and at the same time making this dormant hearing a possible asset in their spiritual and mental development. Then, too, we must not overlook the fact that the slightest ability of sound perception is a wonderful aid to lip-reading.

Examining the class a second time, we should find a group who had possessed normal hearing up to the age of five years, and then for some physical reason had lost their full power of hearing, but still retain-

ing sound perception. They have had verbal images; they still retain auditory images of sound; they have experienced auditory impressions; they already possess a large "hearing" vocabulary, and can repeat these known sounds and words when conveyed to them through their residual hearing. We must exercise and utilize this latent hearing and develop the power of sound perception and build up the child's speech and auditory centers, which combine to make his language. Here, too, if after due trial we find that we are unable to impart knowledge entirely in this way, we surely can develop and better his speech and make this apparent hearing supplement his lip-reading.

After these two groups have been selected, we should have a third group, made up of adventitiously deaf possessing some degree of hearing. They are pupils who have become deaf after the age of eight years or more. They have received their foundation in education in the public schools. They possess a fair command of spoken and written language; they have experienced sensations in the brain centers through aural stimuli; they already have a fair "hearing" vocabulary. They are able to interpret sound and spoken words when shouted into their ears. They respond more readily as their brain centers have been trained to receive and interpret all auditory impressions. Here we have a group that should be taught entirely through the medium of hearing. They should demand it, and we should heed the demand. It is their right and salvation. To be sure they will not respond immediately to new stimuli—that is, interpret new sounds (words), but after constant repetition and after numerous audi-

tory impressions have been made they will be able to interpret and thus increase their vocabulary and naturally their speech and command of language. It follows the same principle as lip-reading. No child interprets a new word on the lips at first hand. He does so only after constant repetition and frequent association. Even we who have our full power of hearing fail to grasp new words when they are first uttered. A better comparison would be this. Place yourself in a foreign country and imagine how often a word or expression would have to be repeated before you would be able to understand it. Although we have hearing, our brain centers fail to interpret these new impressions. For this last type there should be auricular classes, and instruction should be carried on through auricular means, through the ear, the ear-tube, or the acousticon, as the case may be.

The first group, the congenitally deaf "residuals," would be benefited in that they would be able to correct and improve their speech and tone of voice and likewise be better enabled to read the lips.

The second group, those who became deaf at the age of five years or before entering public schools, would derive similar benefits, only to a higher degree.

The last group, those who already possess a command of language sufficient to build thereupon a larger and wider command of language, and whose brain centers, because of their long experience with auditory impressions and interpretations, have been trained to be receptive and open to all possible stimuli, would derive the greatest benefits: (1) the auditory nerve would not be allowed to become atrophied, but would be preserved through constant use;

(2) the voice would receive the necessary training in modulation, flexibility, and proper tone qualities; (3) the speech defects would, to some extent, be eradicated and the speech greatly improved; (4) the mental development and the acquisition of knowledge would be carried on and obtained in the normal manner—in other words, the child would experience normal mental growth.

Surely if it is true that we have in our schools a number of what we may term "hearing deaf," does it not seem fair that we should endeavor to alleviate their defective hearing or apparent deafness in some way? If these particular children can and do attain more normal educational and moral standards, why not afford them all ample opportunity for doing so? The proof of any method or training is naturally the results obtained. We have noted the wonderful results and benefits offered by auricular training, and if we are desirous of using every possible means for the betterment, improvement, and advancement of the speech, articulation, and education of our deaf children, we, as benefactors, should accept this method gladly, and firmly root it in our system.

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CHAPEL SERVICES IN SCHOOLS FOR THE DEAF

Chapel services in schools for the deaf should be conducted somewhat as services are conducted for hearing people in churches or chapels where religious bodies are wont to meet. The general tone

pervading every theme presented by the lecturer should be saturated with good, clear, moral thoughts.

A text or reference to a Bible subject should be the basis for our Sunday chapel talks. The reference to the Scriptures instills a degree of reverence for the occasion which commonplace subjects cannot awaken.

It is a good thing to teach deaf children the meaning of Bible topics. Teach them to find passages and texts in the Bible, and that the foundation of right conduct in life is based on the precepts found in the Scriptures.

In following this course the cardinal virtues of loyalty, honesty, truthfulness, kindness, meekness, industry, cleanliness, mercy, honor, and dozens of kindred topics will come up for discussion.

Chapel exercises should not touch upon church creeds or doctrines that are in dispute among religious people. There is enough in moral ethics of incalculable value to the growing youth that all classes and creeds can agree upon as essential to a well-rounded education.

It is really the duty of a school for the deaf to give considerable attention to this feature of the work. What children learn in early life clings to them much more persistently than what they have an opportunity to learn later.

The deaf child in school is denied the privilege and opportunity that his hearing brother has of parental advice and home and Sunday-school instruction. Practically all the religious and moral teaching the deaf child can receive is from the teachers and associates of his school. The responsibility, therefore, resting on the teacher on the lecture platform is not inconsiderable. A lecture should be well

thought out. It should be prepared as carefully as a minister prepares his sermon or a lawyer his brief.

Chapel exercises should be made intelligible, instructive, and entertaining. Many a lecturer in chapel as well as in the schoolroom shoots far over, above, and beyond the heads of the audience he is addressing. Deaf pupils even up to the time they graduate are mere children in intellect. Truth must be taught them in extremely simple form. No uncommon words or phrases should be indulged in without full explanation.

The whys and wherefores of many of the simplest facts are the profoundest mysteries to the deaf. The preacher to the deaf must literally humble himself as a mere child.

The error is not uncommon to new teachers, graduates of universities, to imagine themselves addressing a class of college students and to use learned terms and high-sounding phrases. They fail to grasp the grand vision of the way to approach the heart of the deaf child. Such efforts bring to the deaf no more effect than that of "sounding brass and tinkling cymbals."

Usually chapel exercises should be well interspersed with illustrations and simple stories that bring out the application of the subject. Children always like to listen to stories, and this makes them a strong aid to a lecturer on moral subjects. Here again we must use caution, for we sometimes find that pupils come from chapel able to tell the main parts of a story heard there in the course of a Sunday lecture without once connecting it with the moral idea aimed at. This reverses the proper order of things and makes the story the principal feature

in the lecture, whereas it should be only incidental to the main subject.

The lecturer should do the talking and give the address himself. The exercises should not occupy more than one hour as a rule and should be brought to a close while the interest is still awake. Many a good lecture has been spoiled in effect by tiresome prolongation. One or two sign songs are a proper diversion and are appropriate to a chapel lecture.

It is hoped that as a result of our chapel lectures we inculcate the principles of right and wrong, that we inspire the young people to love and respect the right and despise the wrong. We aim to teach the boy and girl not only to detect the good or the evil in others, but to choose for themselves the better way in the conduct of their own actions.

In the chapel exercises it is proper to bring out in the illustrations a contrast between the right way and its opposite, then call upon the pupils to tell you which is right and which is wrong and invariably their hands will be up in support of right.

When approached in the proper way the deaf are willing believers in truth and are easily moved in support of a good cause. I have more than once seen tears in the eyes of a deaf child at the recital of some cruel or shameful conduct either on his own part or that of some one else.

An earnest speaker in the sign language can compel his audience to laughter or supreme contempt at his will, or can move it to tears. Why should not such singular force be utilized to its fullest extent in molding the character of growing children?

Chapel exercises necessarily touch upon many and varied subjects. They will include facts about na-

ture, history, and the sciences. Some new words or language may be gained by the pupils from the chapel exercises. This is not directly our aim, but follows incidentally our endeavor to kindle the fires of moral conscience. If in after life our pupils obey the laws of conscience as taught in our chapel exercises, we may say our work is not lost.

There are instances where a pupil time and time again violates or ignores our instruction and advice. He may walk out from chapel and do the very thing he was told not to do. We often become discouraged and feel that our efforts are futile, and yet later in life that person becomes a very useful, law-abiding citizen of good moral character. Then we know that love's labor has not been lost, that the seed sown has weathered the tempest of youthful frivolity, and is at length bearing fruit.

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THE DEAF IN THE THIRTEENTH CENSUS OF THE UNITED STATES—IV

AGE WHEN HEARING WAS LOST

A considerable portion of the special report of the Census Bureau concerned with deaf-mutism in the United States is devoted to the matter of age when hearing was lost.

A condition of congenital deafness was reported by 7,533 of the 19,153 deaf-mutes for whom special schedules of information were returned in the census of 1910. This represented 39.3 per cent, or just about two-fifths of the total. A still greater propor-

tion, 9,254, standing for 48.3 per cent, or almost one-half of those for whom schedules were returned, indicated loss of hearing some time within the first five years of life. The great bulk of those deaf-mutes considered in the special report of the Census Bureau is thus included within these two classes, for from five years on there is a decided decrease in the percentages for the age periods when hearing was lost. Comparatively few were reported as having lost their hearing after the age of eight. Since the faculty of speech is usually fully developed by that time, and assuming of course that such persons retained speech as a means of communication with others, then these cases really did not come within the scope of the report which dealt only with deaf-mutes.

Age when hearing was lost.	"Deaf and dumb" population for whom special schedules were returned: 1910.						
	Total.		Male.		Female.		
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Males per 100 females.
Total	19,153	100.0	10,507	100.0	8,646	100.0	121.5
Deafness congenital	7,533	39.3	4,028	38.3	3,505	40.5	114.9
Deafness acquired [1]	11,620	60.7	6,479	61.7	5,141	59.5	126.0
At age of—							
Less than 5 years	9,254	48.3	5,160	49.1	4,094	47.4	126.0
Less than 1 year	1,628	8.5	898	8.5	730	8.4	123.0
1 year	2,375	12.4	1,325	12.6	1,050	12.1	126.2
2 years	2,606	13.6	1,433	13.6	1,173	13.6	122.2
3 years	1,572	8.2	869	8.3	703	8.1	123.6
4 years	959	5.0	578	5.5	381	4.4	151.7
Infancy (exact age not rep'd)	114	0.6	57	0.5	57	0.7	100.0
5 to 9 years	1,594	8.3	907	8.6	687	7.9	132.0
5 years	714	3.7	391	3.7	323	3.7	121.1
6 years	454	2.4	262	2.5	192	2.2	136.5
7 years	319	1.7	194	1.8	125	1.4	155.2
8 years	73	0.4	41	0.4	32	0.4	128.1
9 years	34	0.2	19	0.2	15	0.2	126.7
10 years or over	140	0.7	84	0.8	56	0.6	150.0
At age not reported	632	3.3	328	3.1	304	3.5	107.9

[1] Includes those for whom the age when hearing was lost was not reported.

In the table given above it is to be noted that a greater number of persons lost their hearing during the third year of life than in any other one year. Next in order is the number of those who became deaf in the second year of life, while those who were similarly afflicted during their first year rank third. Beginning with the fourth year there is a steady decrease in the number.

How great is the extent of congenital deaf-mutism? This question will probably always be involved in a maze of uncertainty. One can hardly regard as above suspicion the figures giving the number of those in whom deafness was congenital or those in whom it was reported as adventitious. Ordinarily there is practically no way of distinguishing the deaf from the hearing among children newly born. Very naturally parents take it for granted that their children possess unimpaired the various perceptive faculties. Most children make their first efforts in speech about the second year, and these efforts of course will be handicapped by the degree to which the sense of hearing may be defective. It is at this stage then that the existence of deafness in a child is known with certainty. Therein arises the possibility of error with regard to the age when hearing was lost. Having shown all the symptoms of deafness up to that time, the child is assumed to have been born in that condition, when the affliction may be due to an earlier illness or injury. On the other hand, the loss of hearing may be attributed to illness or accident when in reality it was a case of congenital deafness. Added to this very often is a prejudice on the part of some parents against admitting the existence of any defect in their children

until it has become too obvious to be denied any longer.

There seems to be a lower percentage of congenital deaf-mutism in the United States than in other countries. Census figures for the deaf of Austria, Germany, and Ireland tend to bear this out. The relatively low percentage of those persons in this country who were born deaf may be accounted for by a comparatively wider occurrence of adventitious deafness, a condition caused no doubt by the greater prevalence of the important diseases resulting in deafness. Thus in the United States there seems to be a greater susceptibility to cerebrospinal fever, perhaps the leading cause of adventitious deafness, than in Europe.

There is another factor that may help account for the relatively lower ratio of congenitally deaf among our "deaf and dumb" population as compared with other countries. Our people comprise a more cosmopolitan mixture of racial stocks, which normally ought to check the tendency toward consanguineous marriages. Such unions would occur more frequently in a population that was more purely native in its origin, which in turn would naturally result in a higher percentage of congenital deaf-mutism among the offspring. The great streams of immigration to the United States have thus helped to reduce the proportion of the latter class of persons as compared with other nations.

As the interpretations given to the term "deaf and dumb" have varied from one census to another, the statistics relating to the deaf in the United States permit of no definite conclusion as to whether the proportion of congenital deaf-mutism is increas-

ing or decreasing. The failure to consider within the scope of one census those deaf persons who retained the use of articulate speech, and the decision at a subsequent census to include such persons, would tend to add an element of uncertainty when comparing percentages of congenital deaf-mutism for the two censuses.

An apparent decrease in the proportion of those who were born deaf is indicated in the following table, which compares the figures for each census from 1880 to 1910, inclusive, reporting age when hearing was lost.

Year.	"Deaf and dumb" population of the United States reporting age when hearing was lost.		
	Total.	Reporting deafness as congenital.	
		Number.	Per cent of total.
1880[1]	22,473	12,155	54.1
1890[2]	37,204	16,866	45.3
1900[3]	37,361	14,474	38.7
1910[4]	18,407	7,533	40.9

[1] "Deaf-mutes," excluding those reported as 16 years of age or over when hearing was lost.
[2] Deaf persons unable to speak at all.
[3] Deaf less than eight years of age when hearing was lost, for whom special schedules were returned.
[4] "Deaf and dumb" population for whom special schedules were returned.

But this marked decrease in the percentage of congenital deafness in 1910 when compared with the same figures in 1880 runs contrary to what might have been expected. Within the last few decades marked progress has been made by the medical profession in controlling the severe diseases that lead to adventitious deafness, a fact which normally should be reflected in a lower ratio for this class of persons among the "deaf and dumb" population. This in turn should lead one to look for a *higher* per-

centage among the "deaf and dumb" of those who were born deaf. If the figures in 1910, as compared with 1880 and 1890, point to a decided decrease in the proportion of congenital deaf-mutism, then the difference is probably due in large part to greater care taken in the latest census to see that persons who lost their hearing within the first four years of life were so reported. In a previous enumeration, such persons might have been returned as having been born deaf.

Comparison by Sex. As indicated by the table given on page 364, relative to the age when hearing was lost, there seems to prevail a slightly higher proportion of females who were born deaf among the total number of "deaf and dumb" persons of that sex than the corresponding proportion of males who were deaf from birth among the male "deaf and dumb" population for whom special schedules were received. Of the females, 40.5 per cent reported a condition of congenital deaf-mutism, whereas of the males, only 38.3 per cent came under this status.

This slightly greater tendency on the part of females toward congenital deaf-mutism is offset by a higher percentage of adventitious deafness among male "deaf-mutes." Vital statistics seem to indicate that male children succumb more easily to the effects of meningitis, measles, and scarlet fever. These are diseases that very often leave deafness in thir wake, and the apparent fact that male children offer less resistance to them may account for the greater proportion of adventitious deafness ascribed to that sex.

Comparison by Geographic Divisions. A comparison of the figures for the various geographic

sections of the United States with regard to age when hearing was lost points toward a marked concentration of deaf-mutism that is congenital in origin in the three Southern divisions. Discounting the slight margin of those for whom no information as to when they became deaf was on hand, the proportion for 1910 of congenitally deaf among the "deaf and dumb" population in the South Atlantic and East South Central divisions was well beyond the half-way mark in each case, being 57.9 and 53.1 per cent, respectively. The West South Central was next in order with a percentage of 47.1. Fourth in this rank was New England with 39.9 per cent. This sequence, as brought out in the following table, has held true for the last three censuses.

Division.	Per cent congenitally deaf among "deaf and dumb" population.[1]			Rank in Percentage.		
	1910[2]	1900[3]	1890[4]	1910[2]	1900[3]	1890[4]
United States	40.9	38.7	45.3	.....	.....	.....
New England	39.9	35.6	44.6	4	4	4
Middle Atlantic	37.0	34.5	42.0	5	5	5
East North Central	34.7	31.7	37.3	6	9	7
West North Central	34.2	31.8	36.9	7	8	9
South Atlantic	57.9	54.9	61.4	1	1	1
East South Central	53.1	51.4	60.7	2	2	2
West South Central	47.1	47.5	53.3	3	3	3
Mountain	32.9	33.6	41.6	8	6	6
Pacific	29.9	32.8	37.3	9	7	8

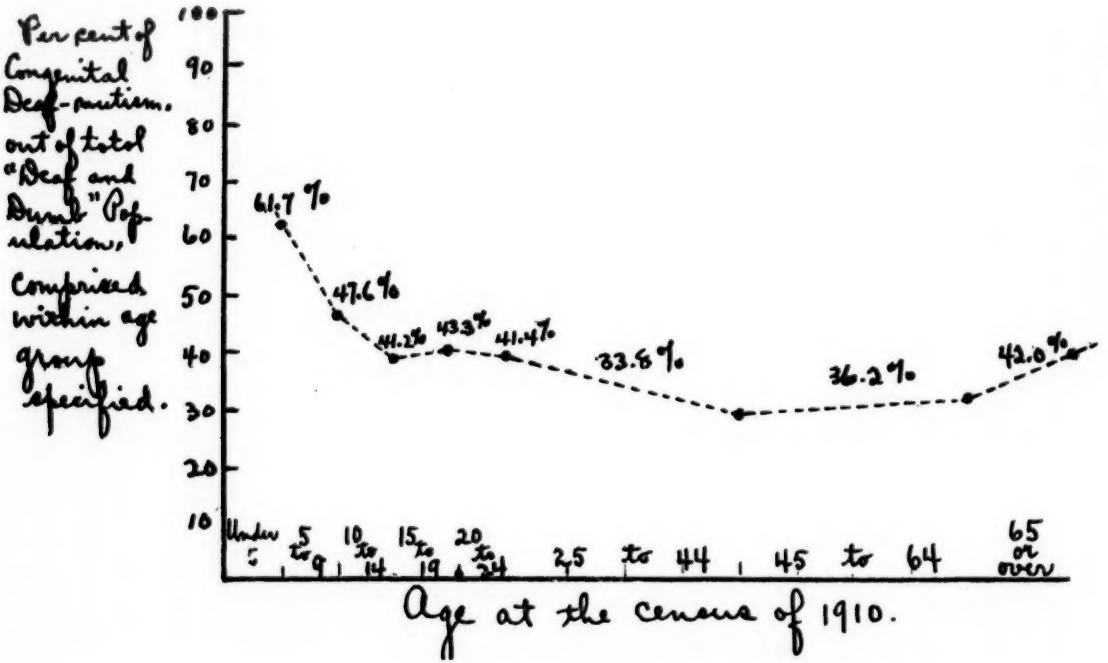
[1] Based upon the population for whom the age when hearing was lost was definitely reported.
[2] Figures relate to "deaf and dumb" population for whom special schedules were returned.
[3] Figures relate to deaf population for whom special schedules were returned less than 8 years of age when hearing was lost.
[4] Figures relate to deaf who were unable to speak.

Just why there should be so pronounced a tendency toward congenital deaf-mutism in the South is a matter of conjecture. One theory advanced is that, since there is relatively less of an influx of im-

migration from other states or foreign countries, it is not so immune from the effects of consanguineous marriages among its settled native population. The presence of large numbers of negroes, among whom congenital deafness is more common than among whites, also helps to account for the greater prevalence in the South of those who were born deaf.[1] It is very probable also, owing to the greater degree of ignorance among the negroes and "poor whites" of the South, that inaccurate returns were made whereby many of them who really lost their hearing during infancy were improperly classed as having been born deaf.

Comparison According to Age at Enumeration. The varying proportion of those born deaf in the different age groups at the time the census of 1910 was taken is illustrated by the diagram given below, showing the frequency of congenital deaf-mutism by a percentage scale in each of the age groups specified.

[1]As explained in a previous article, *Annals* lxiv, page 264, the negroes, for some mysterious reason, seem to enjoy greater immunity from the more important of the major diseases that lead to deafness. Such a condition giving the negroes as a race a comparatively lower level of adventitious deafness would naturally raise the percentage for those of their number who were born deaf.


Per cent of Congenital Deaf-mutism out of total "Deaf and Dumb" Population, Comprised within age group specified.
100
90
80
70
60
50
40
30
20
10
61.7 %
47.6 %
41.2%
43.3%
41.4%
33.8 %
36.2 %
42.0 %
Under 5
5 to 9
10 to 14
15 to 19
20 to 24
25 to 44
45 to 64
65 or over
Age at the census of 1910.

The curve very naturally is highest at the earliest age group. A person runs a greater risk of acquiring deafness from disease or accident over the period extending from birth to the tenth year than he does in the first five years of life, which, conversely, lowers the proportion of congenital deafness for that age period.

Influence of Deafness upon Longevity. A comparison of the age distribution of those who were born deaf with the age distribution of the general population may help throw some light upon the question as to whether the existence of deafness in a person has any effect upon his expectation of life. Such an attempt is made in the table below.[2]

Age at enumeration.	Per cent distribution of population 5 years of age or over: 1910.[1]			
		"Deaf and dumb" for whom special schedules were returned.		
	Native.[2]	Congenitally deaf.	Under 1 year of age when hearing was lost.	1 year but under 2 years of age when hearing was lost.
5 years or over	100.0	100.0	100.0	100.0
5 to 9 years	13.9	12.0	10.7	11.0
10 to 14 years	12.9	14.4	16.4	16.6
15 to 19 years	12.4	14.2	15.0	14.4
20 to 24 years	11.2	11.6	14.0	12.0
25 to 44 years	30.8	27.3	30.7	31.1
45 to 64 years	14.7	15.9	11.5	12.7
65 years or over	4.1	4.6	1.7	2.3

[1] Based upon the population whose age at enumeration was reported.
[2] Comprises the native white, Negro, and Indian population.

In this comparison congenital deaf-mutes seem to find in their handicap no barrier to as full an expec-

[2] The figures in this table refer only to persons five years of age or over because the returns from the "deaf and dumb" under that age contain too many inaccuracies to permit of a valid comparison.

tation of life as the general hearing population. In fact, the proportion of this class of persons within some of the advanced age groups, the period between middle age and old age (45 years of age or over), for instance, is even higher than for the total native population.

Of the deaf who lost their hearing within the first two years of life, the proportion 45 years of age or over was decidedly below that for either of the other two classes of persons considered. For these adventitiously deaf also there is a less proportion who reached old age (65 years or over). Only 1.7 per cent of those who became deaf within their first years arrived at old age, while only 2.3 per cent of those who lost their hearing during the second year of life were 65 years or over. This is in striking contrast with the corresponding figures for those who had reached old age both among the native population and the congenitally deaf at the time the census was taken, representing 4.1 and 4.6 per cent, respectively.

It is quite reasonable to assume then that the adventitiously deaf, or at least those of them who lost their hearing in early infancy, do not enjoy so great a prospect of continued life as do the congenitally deaf or the general population. The effects of a serious illness, coming so soon after birth and resulting in deafness, may very often leave the body in so low a state of vitality as to reduce the possibility of longevity of life.

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TEACHING THE DEAF TO READ

Books are as essential in the education of the deaf as of the hearing, and yet it is an uphill task to teach the deaf to read. By this, I mean to read with intelligence and understanding. Many children will read by the hour, not grasping a thing they are reading, but doing it, I suppose, from a sense of duty.

Many books that are written for little hearing children are far beyond them. Not long ago a most severe criticism came out in one of our daily papers on some books for children that had just been published; the writer saying the language used in them was far beyond any child and was suitable only for grown people.

It may be that the present generation of children, in the minds of the authors, are more precocious than the children of days gone by, or, perhaps, the advancement of the age has affected the childish mind, for the language in the books of the present day is most certainly hard for any child.

But the hearing child has the advantage of the deaf child, in that his mind has been prepared for the books he is to read long before he is able even to learn print. At his mother's knee he hears the tales of fairy lore, thrilling Indian stories, and the legends of the birds and animals. As he hears these things his mind expands and the knowledge gained then is laid up for future use, so that when he is able to read he has enough language stored up to help him understand.

But the little deaf child has no one to lighten his pathway, no hand to lift the veil of ignorance and let the light of knowledge shine upon his darkened

understanding, until he comes to school, and his progress then is of necessity slow.

In the earliest stage of a little child's life he is given pictures to look at; why not treat the little deaf child the same way? The same principle that works with a hearing child could surely be applied to a normal deaf child with good results. Working on this theory I have taught my pupils to read and to read with understanding. The majority of them enjoy the privilege thoroughly.

After a pupil has been in school long enough to learn a few words a brightly illustrated "Primer" left upon the table attracts his attention; his surprise and delight are unbounded when he finds a word he knows in the book. The book is passed around the class and from that time on the "Primers" are in demand. Some of the pictures have the written name under them, some the printed name, and some no name at all. Of course the printed words are Greek to the pupils until later on.

As the child's vocabulary increases and as things around him become more interesting, books with brightly colored pictures of birds, animals, etc., delight his very soul, and, like his little hearing brother a few years younger, the love of pictures has become one of the joys of his daily life.

These do not take the place of school work, but are a reward of merit for a lesson well done, and the pupils work hard for them.

As the years go on both the pictures and books can be changed to suit the knowledge of the child.

In the fourth and fifth grades my desk has on it the latest copies of "Primary Plans," the *Geo-*

graphic Magazine, simple books, and the picture sections of some of our best daily papers. The latter have proved quite useful this past winter. Filled with photographs of prominent men, war pictures, the surrender of the German fleet, President Wilson's trip abroad, and other things of equal interest, they have been a great help.

The pictures brought forth many questions and opened the way for imparting much knowledge on matters in which the whole world was interested. As many of the class had brothers or relatives in the war, they wanted to know all about it, and the pictures helped wonderfully.

One thing leads to another, and so their minds once aroused, they seek to gain knowledge even as we who have all our faculties.

In looking over the magazines they soon learn that if they wish to know what the pictures are about they must read what is printed underneath. Several years ago I had in my class an unusually bright boy who absorbed everything that came his way, and, having a retentive brain, everything he grasped he made his own. One day we had a very dry geography lesson on Australia. In order to make the lesson interesting I had told the pupils a number of little incidents about the place in order to help them retain it in memory and succeeded in getting them quite interested. When the lesson was over I asked if any of them knew anything more about Australia. This boy held up his hand and said: "They catch kangaroos in Australia and train them," and then he went on to tell me more. I asked him where he learned that. He said: "I read it in the Geography Magazine," and getting up he

brought me a copy of the *Geographic* on "Lonely Australia."

What one child grasps is usually imparted to the others; so Australia was never forgotten.

Whenever a deaf person distinguishes himself or achieves greatness in any way the children are told about him, particular stress being laid upon the fact that in spite of his affliction that man has risen to the top, and by dint of hard work and perseverance they too may do the same.

One day while shopping I found some brightly colored copies of "Red Riding Hood," "The Three Bears," "Cinderella," and others which I purchased. These stories I re-wrote in simple language. They were then told to the class, re-written by them from memory, printed in our "Lesson Paper" for study work, and then questions, both by teacher and pupil, were given. After several days had been spent on the story the pupils were allowed to have the book containing that story, and how they did enjoy it! The story was theirs, and they could read it with understanding, coming to me from time to time to learn the meaning of some new word.

"Red Riding Hood" was the first story told, and part of this we acted out. They became quite excited over this and there was an audible sigh of relief when the wolf was killed and the little girl was safe.

When the story was finished I said: "Do you think this is a true story?" There was a diversity of opinion on the subject; some thought it was true, one thought it a joke, and one little fellow said he thought it was "a big lie." I explained to them then that it was a dream or thought story and that it was not true, but this did not dampen their ardor

in the least. For several days books with the same story appeared from different quarters and it was read and re-read over and over again.

A surplus of good things soon becomes tiresome; so these stories are told only at stated intervals, and, as blessings that come singly last longer, only one new book is given them at a time.

Rather an amusing incident occurred when we were studying "Cinderella." For some reason it proved much harder for them to understand than the other stories. One bright boy on being asked how many sisters Cinderella had, instantly replied "One." When told that that was a mistake he insisted, saying "One half and one half make one, and she had two half sisters."

I had heard the same answer given several years ago by a little girl in a Southern school, but was surprised when one of my brightest pupils came out with it. It was some time before I could make him understand the difference between a half in fractions and a half in relationship.

Fairy stories were interlarded with stories of Indians, Columbus, Edison, Helen Keller, and others. Each time I tried to have the pictures or book of whatever subject I was telling them.

Finally when the class were allowed books from the library they were eager for them. They each knew what they wanted and expressed a preference for books on different subjects.

The "Peter Rabbit Stories," "Pigs is Pigs," and "The Raindrop" delighted them. They read them again and again and then begged for books that other children had that they liked.

With the love and desire for books kindled in them, I felt that my work had not been in vain. This is slow work but "The end justifies the means." All good results take time and—

> We build the ladder by which we rise
> From the lowly earth to the vaulted skies.

So in this, as in other things, we have to work our way upward step by step, helping those that stumble, and urging them onward, striving always for the crown of knowledge that seems just beyond our reach.

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MILITARY DRILL IN SCHOOLS FOR THE DEAF

A careful study of the subject of military drill, as adopted in several of our schools for the deaf, discloses the following points as embracing the claims and objects of its advocates:

1. Discipline and implicit obedience to authority and the development of all-round character and manly bearing.
2. Physical exercise or training.
3. Exhibition purposes.

1. It is claimed that military drill offers the best method of training pupils in attention, promptness, obedience, truthfulness, industry, manly bearing, and other desirable personal traits—in short, of developing discipline and general excellence of character.

The best public school authorities are practically unanimous in asserting that these claims have no justification. The writer, who had seven years' experience as pupil officer in military drill in a school for the deaf, must heartily agree with this view.

If one goes behind the scenes, it will be found that by far most of the cadet body find the constant drills with their ceaseless repetitions extremely irksome, and submit to them only from compulsion of circumstances. This is certainly not surprising since, as is well known, military drill, mastered and become a constantly recurring routine, is submitted to by the soldier of mature age with cheerfulness only when he sees the use and necessity of it, as to fit him for battle, and is often found well-nigh unendurable in peace-time barrack life. If such is the case with the adult soldier, with whom the drill is a duty, how much more must it be so with the half-grown youth, with far less of training, patience, and endurance, to whom it becomes merely a task, a wearying grind.

In Australia and New Zealand there is a system of compulsory military training of public-school boys of from fourteen and sixteen years of age upward respectively. In 1912 the average of absences from drill in Australia ran from 31 to 52 per cent. Auckland, New Zealand, had 770 prosecutions for absence from drill in one year.

In our own country the Wyoming system, introduced by Lieutenant E. Z. Steever, U. S. Army, has aroused much interest in recent years; more, indeed, than the facts appear to warrant. The system is voluntary and, according to figures given out by the adjutant general of the state, February 4, 1916,

seven high schools in the state had an average of 45 cadets, or slightly over 300 in all!

In Boston the boys have been given military drill in the high schools for more than half a century, but military officers testify that the result has been detrimental to the military interests of the state.

This is because of the monotony of drill and the misconception which the boys gain regarding military life. It has resulted in contempt for military service.

It has been found that wherever military training of youths is established, voluntary enlistment in the army is low.

General Baden-Powell, the hero of Mafeking in the Boer War, and founder of the Boy Scouts, gives in a nutshell the effect of military drill on the average boy in this terse sentence:

> If you want to spoil a soldier give a boy military training.

Since military drill and training[1] are thus distasteful to the spirit, how can they be considered excellent as a training in discipline and character? The tendency must be rather to deceit and shirking than to the virtues ascribed.

Sergeant Charles K. Taylor, late of the army and an expert on physical training, who has written several good articles on the subject, among them "Points to Failure of Military Training After Two

[1] A distinction should be made between military drill and military training. By the latter should be understood a direct, practical, intensive training designed to fit the subjects for the life of a soldier. By the former is meant the selected exercises of infantry drill used in schools for disciplinary and other purposes, as given in the beginning of this article.

Years in New York Schools," "Schoolboy Needs Physical Training," and "Military Training—and the Boy," sums up the whole thing in a nutshell when he says:

> Formal military drill is merely a disciplinary adjunct. It is also an artificial discipline, imposed from without.

A New Jersey investigating commission says:

> Obedience to military authority is generally unthinking. It is a psychological fallacy to suppose that obedience to military authority, indeed obedience exacted under any peculiar circumstances, may automatically be translated into the general habit of obedience.

According to Dr. J. W. Seaver, late physical director of Yale University—

> Military drill may seem to inculcate habits of strict obedience to law and authority, but this same quality of obedience and stern moral discipline is found in highest form, not under the military system, but in the self-governed company of boys who compose a college or school team. When a boy gets on the football team, or is to contend in an athletic event as the representative of his fellows, he will never fail in the high obligations of obedience and morality.
>
> The true sportsman must rigidly obey the rules of the game and abide by the decisions of the officials without protest; he must be absolute master of himself; he must sacrifice himself for the good of his team; he forms good habits while observing training; he must be unimpeachably honest in the face of overwhelming temptation—in short, he requires every good quality, physical, mental, and moral.

Percy P. Haughton, the great Harvard football coach, tells of a student graduating with high honors who attributed greater gain to his football playing

than to any other course, telling how it gave him his first real understanding of the terms self-sacrifice, obedience, discipline, preparedness, and other long words dinned into his ears by his father and teachers.

One of the strongest testimonials along this line is the following statement by a saloon-keeper, which appeared in the public press:

> The thing that is doing the most damage to the liquor trade is school-boy athletics. Now a school-boy is brought up to be an athlete. He has training ideas hammered into him every day. He's taught that he can't be an athlete and drink or smoke, and that he musn't drink or smoke. And he doesn't do it when he grows up, either. He likes to keep in good athletic condition.

Nothing better shows the superiority of competitive sports or games in molding the character than a comparison of the soldiers of the different armies in the Great War. Professor A. A. Stagg, director of physical education at the University of Chicago, has well brought this out in a recent article in the *American Magazine*. According to him, the German soldiers had received more gymnastic training than the men of any of the other nations, an undeniable physical advantage; but the sport-bred, sport-loving British and Americans were far superior in morale; in tenacity, endurance, and pluck; in fairness and good-fellowship; and in dash, initiative, and resourcefulness.

The Honorable N. D. Baker, Secretary of War, on a visit to one of the military training camps three days after it was organized, was amazed at the ease with which the young men adapted themselves to military life. After only a few days' in-

struction they acted in many ways like seasoned soldiers. It was remarked by some British and French officers present that nowhere in the whole world had there ever been found men who adapted themselves so quickly to the spirit of military life. This illustrates very clearly the result of the team play which they had learned in college athletics, by a system of self-government or voluntary submission to authority for the good of the team, the college, the mass.

2. Does military drill answer all the needs of exercise and physical training?

In looking over the history of physical training we find that in their earliest beginnings exercises were designed solely to fit men for war. Every citizen was a soldier. Physical fitness was a necessity to him, and the many athletic exercises were admirably calculated to produce this fitness. Running and jumping made him active and sound of wind; throwing the discus and spear trained hand, arm, and eye for the use of weapons; wrestling and boxing taught him to defend himself in hand-to-hand warfare. And, by the way, in our recent Great War we were shown how boxing was an invaluable preparation in bayonet drills, the movements being much alike.

The word "exercise" itself is derived from the Latin word *exercitium,* applied to the military exercises of the Roman soldiers. Much of the portable apparatus now used in our gymnasium and in open-air athletics, such as the shot, bar-bells, quarter-staves or wands, Indian clubs, single-sticks, sabres, and spears or javelins were once weapons used in warfare; and the heavy apparatus and equipment,

such as storming boards, scaling walls, climbing poles, and leather-covered horses have all played their part in training soldiers for the battlefield.

Many of our athletic sports of to-day have their origin in the features of warlike conflict—attack and defense, flight and pursuit. The antagonistic sports, such as wrestling, boxing, football, baseball, and basketball, come nearer to real war than all others; and one great source of their present-day popularity is the fact that they awaken in us the primitive fighting instinct that has been developed through centuries of struggle.

Struggle is a biological necessity, and there is not a better way of impressing on the young this great truth than by leading them to participate in competitive athletics and games.

Since we thus see how necessary different forms of athletic exercise have always been considered in the training of the soldier and how valuable competitive sports and games are in rousing the fighting spirit, it follows that if military drill is not sufficient for him, but has to be complemented by physical exercises, much more must this be the case with the youth of our schools.

We hear much of the wonderful physical development and improvement in health gained by our men who went into the army in the recent Great War. As Dr. Charles Watson Savage, of Oberlin, says, it was the *physical training,* regular sleep, and meals at regular hours which produced the remarkable physical development, not the military drill.

In this connection the writer may well give the following extract from an article by the noted Walter Eckersall:

Some of the most noted physical directors in the country who accepted positions as camp directors assert that three-fourths of the time had to be spent to get the men into physical condition before they could stand the hardships of military training.

Fortunately for us, however, we have learned that the fault was not with our methods of physical education and athletics, but in the lack of an organization and a system that would bring our athletic methods into more general use. When our recruits arrived at the home cantonments, they found there an organization that surrounded them with every opportunity for participation in athletic sports, recreational as well as the more intensely competitive. A part of every day's military drill was devoted to recreational games. The result of this athletics-for-all programme was that our doughboy, whether he came from the cactus region of the Western desert, or the ghetto districts of our Eastern cities, or from the rich man's club, caught the spirit of play and vigorous competition and entered into the athletic contests and recreational games with thorough enjoyment. He saw his limbs unlimber, and developed from a slab-sided, stoop-shouldered, hollow-chested, and meager or flabby-muscled youth into a vigorous, well-set-up, well-developed, self-respecting young man.

When this young man did go over the top he did it in such a masterly way that the European world is still marveling at his adaptability. And the interesting thing about it is that our allies so generally attribute a large share of our military success as fighters to our athletic programme that several of them have already asked for our experts to introduce American games and athletic methods into their army and into their school system.

The term exercises may perhaps best be defined technically as a series of movements designed to develop the muscles and increase the functional capacity of the various organs. The end in view is to

produce a man fitted for the exigencies of life as well as for its known routine of duties. The means toward this end are various, but all have in view in common the physiological law of the gradual natural adaptation of our parts to meet the requirements placed upon them. In the beginning of our lives there is probably no voluntary muscle that is ready to perform its functions, and the perfected activity of the expert in any line is the result of thousands of tentative efforts that have gradually approached in effect the ideal. The result of these efforts is found to be not only increased facility in movements, but change in physical form. This fact has been so long observed that we have come to the point of assuming that a particular physical type is proof of ability in a certain direction or of disability in others.

The need and effect of different kinds of training for different lines of activity are well brought out by Sergeant Henry Gowdy, catcher of the Boston National League baseball team, world-series hero, and the first professional ball-player of prominence to tender his services to the government in the Great War. Speaking of the training of the ball-player and soldier, he says:

> As far as I can see, the main difference is that the army trains men for endurance and regularity in habits, while in the baseball training camps the aim is for sudden speed and spurts. For instance, the well-trained ball-player would be all fagged out carrying a pack, rifle, and other equipment on a ten-mile hike, while the soldier would be absolutely winded if he had to run around the bases at top speed. The soldier's arm would also be as sore as a boil after making two or three long throws, while the ball-player can do it all the afternoon.

The proper balancing of parts so as to give the greatest general physical ability will also give us the best all-round man. The exercise by artificial means of any parts that are neglected by the regular habits of life has gradually become the means employed to improve the physique of the young, and the health, in particular, of persons of mature life, although physical improvement is not limited to any age.

According to the best authorities on physiology and physical training, the ideal exercise has a two-fold office—to develop and invigorate and organize both the nervous and the muscular system, the former even more than the latter. In accomplishing this object nothing is better than athletic games and sports. Military drill will not answer. It quickly becomes habitual or mechanical. No mental exertion is called for. No mental interest is aroused, with its beneficial reaction on the nervous system. As a monotonous routine, it palls on the youth, as said before, fatiguing instead of stimulating the nervous system.

Considering the muscular system alone, is military drill a sufficient exercise? It may give the boys lots of action out in the open air, and so seem to meet the demands of health; but in itself it does not thoroughly exercise all parts of the body and does not exercise them in the right way or under right conditions, and it tends to make the body unsymmetrical, contrary to the general opinion that it develops erectness and manly bearing, the use of the gun being especially injurious, being apt to cause spinal curvature. Let us see what some of the best authorities have to say on these points.

The noted Dr. D. A. Sargent, of Harvard University, in his book "Physical Education," gives what is perhaps the best scientific summing-up of the undesirable physical results of military drill for boys:

> During the drill the clothing is buttoned close around the chest and natural respiration is hindered. The muscles are not alternately contracted and relaxed, but are tetanized, or kept in a state of prolonged tension. This not only impairs the tone of the muscles used, but also puts an additional strain upon the brain and nervous system at a time when both should be as much relieved as possible.
>
> The community at large has long entertained the idea that there is something about military drill that makes young men erect. There is nothing in the drill itself that tends to make one erect or graceful. On the contrary, it tends to make the boy stiff and angular in his movements and to give him drooping and rounded shoulders. To correct this tendency it is necessary to go outside of the military drill and borrow from physical training a set of free gymnastics, the well-known setting-up drill.

General Baden-Powell, before quoted, has expressed the same idea:

> Military drill is wooden. Employed as a form of exercise in the formative period of early adolescence, it tends not only to repress initiative but also to produce stiff, angular, and inelastic muscular action.

Professor George W. Ehler, C. E., director of physical education at the University of Wisconsin, was for three years a student and for one year an instructor at the Pennsylvania Military College and for two summers conducted a boys' military company at the Lake Chautauqua Assembly, while in his five years at Madison he has had charge of the twice-

a-week military drill required of all students. No one has better experience of the subject than he, and no one can be counted on as more fair and impartial. Here are his conclusions:

The military drill in public schools, which means infantry drill tactics—marching and manual of arms—can be thoroughly learned in less than a month for all practical military purposes by any bright boy strong enough to handle a toy gun. From the standpoint of physical education, their value on the one hand is not only negligible, for the same physical results that are of any value at all can be secured in better ways; but on the other hand the formal, restricted movements of the manual of arms, combined with the relatively long periods of holding the rifle in one position while drilling at company or regimental evolutions, are positively injurious to the growing and developing boy.

Military drill is a soul-deadening, enthusiasm-killing, contempt-developing treadmill.

Major Herman Koehler, the master of the sword and instructor of physical training at West Point, says:

The use of the musket as a means of physical development of any one, be he man or boy, is worse than useless; in my opinion it is positively injurious. Here at the Academy the bad effects are not so apparent, for the simple reason that the rifle is in the hands of the cadets only at certain periods of the year, and then only for a short space of time each day. Then, again, the cadets have such various drills, besides the regular gymnastic work, that even if there should be a tendency to become "lop-sided" this tendency is counteracted by other work. But it is not so with soldiers who, being older, are supposedly less liable to suffer from this. Even on these, however, it has its effect.

Since the present system of physical training has been added to the curriculum of this institution, the eyes of those officers of the army who have maintained that the manual of arms, setting-up exercises, and tactics were more than sufficient to develop the soldierly qualities of any man have been gradually opened. These same men, when the question of physical training by any other means was mooted, would have none of it. To them this was an innovation not consistent with military usage, at least not in our country; the drill regulations did not prescribe it; they did not want athletes, but soldiers, etc. However, a change has been wrought, as I said before, and the great truth has at last dawned upon them that athletes make the most superior soldiers, and that even those who are not athletes, but have enjoyed the benefits accruing from a good physical education, are really molded into better soldiers than those who were educated under the old rules and methods. In consequence of this you find to-day almost every post in the army has an officer detailed, whose duty it is to give the men as much gymnastic and athletic training as time and facilities will admit.

In England military drill was introduced into the public schools and was retained for over twenty years. During this time Dr. W. E. Darby, of London, made a very careful and exhaustive study of the situation, and as a result of the report made by him, to the effect that the physical advantages derived from other forms of physical training were two-thirds greater than those derived from military drill alone, the military drill in the schools was given up.

In France, after the Franco-Prussian war, military drill was introduced into the public schools, but after twenty years of trial it was given up and the uniforms and other accouterments were sold at auc-

tion. Again it was found that military drill did not develop as good soldiers as did other forms of physical training.

Germany has never had military drill in connection with the public schools. With the thoroughness characteristic of the Germans the question had been fully investigated beforehand, and one of the army medical men, Dr. Augestein, has said that to introduce military drill into the public schools would be to commit a physiological crime.

Sir William Aitken, professor of pathology in the Army Medical School of England, says that boys given military training at eighteen make soldiers who are less robust and efficient than men with whom this training was deferred a few years until after their bones, heart, lungs, liver, etc., were more matured and developed. Recruits of eighteen show physical immaturity, which results only too frequently in their ending in the hospital or being discharged as invalids. Recruits of eighteen require two years' special training before they are fit for military training. If such is the effect of military training on youths nearing maturity, it is evident that strenuous military drill modelled thereon must be harmful rather than beneficial to boys often much younger, as in our schools for the deaf.

The evil effects of military drill aside, its advocates in our schools for the deaf set forth as its advantage the fact that it gives all the boys physical exercise, while ordinary athletics and games are limited to only a comparatively small number, neglecting the rest. This is true, but it is the fault of the schools, which should provide for a thorough system of physical training under an efficient director.

These advocates no doubt would maintain that they provide for the proper athletic exercises of the pupils not through the military drill alone, but through the free movements and physical drill of different kinds used in connection therewith and adapted from systems. But such exercises are designed especially to develop men for the life of the soldier. They are not suitable for boys of all ages and physiques and needs.

A thorough course in physical training has now become generally recognized as essential to the physical well-being of school children. Different kinds of exercises are needed for different ages. Special exercises are needed to correct physical defects. At a recent conference of school superintendents of the country, organized as a department of the National Education Association, the following emphatic declaration was made:

> A thorough and comprehensive plan of physical training should be provided and made compulsory upon all boys and girls of all ages attending the schools. This plan should include physical exercises, setting-up drills with emphasis upon posture and discipline, marching, organized and supervised play, recreation, athletics, gymnastics, summer camps, and outdoor life, wherever possible, for the whole or part of the vacations.
>
> Special attention should be directed to personal hygiene. This should include the care of the body, frequent, thorough compulsory medical inspection, and consideration of the laws of health, strength, and vigor.

3. We come now to the third and last of the objects we have assigned as governing the maintenance of military drill in our schools, the purpose of exhibition, an object perhaps not admitted or openly advocated. This is the least worthy, as it has little if

any regard to what is best for the boys themselves, but aims at showing off, chiefly for the credit of the school. If any of the boys continue long to take pleasure in it, it is in greater part through its appeal to their vanity. Perfection of exhibition in military drill—especially as given by the deaf in competition with the hearing—calls for long and tedious practice.

Not that an occasional exhibition of stirring rhythmic military evolutions, as of any other accomplishment, is out of place, but when the drill is utilized, as it often is, as an easy, convenient means of maintaining discipline, and the dress parades are held with frequency as a sop to vanity, to keep the boys in some degree contented with the grind, the exhibition idea is not a praiseworthy one.

From the foregoing it may be concluded that the writer is totally opposed to military drills in our schools. Such is not the case. But he is opposed to it as it is generally held; to the undue importance attached to it; to the credit given it as a cure-all for all the difficulties met with in handling boys, in discipline and physical care; and to the lengthy period given every day, as regularly as the clock, to the marching, which quickly becomes a bugbear, looked forward to with dread and loathing.

In most cases a full hour is given to this, and, of course, during this time the boys are kept out of mischief and are having a form of exercise in the open air. But even the grown men of the army are not subjected to such an ordeal, except in periods of intensive training, and then only for twenty minutes of drill at a time, the periods being interspersed with physical exercises and the many other duties required of the soldier, as well as with play

spells. Soldiers, even while acquiring the fighting spirit, delight in kiddies' games. Good humor is one of the vital elements of discipline. The men get a wild delight out of "swat-tag." They play leap-frog, prisoners' base, and a dozen other games their younger brothers have forgotten—and enjoy them. This fun is a necessity, to relieve the tedium.

The writer's idea is disciplinary drill, with military drill forming a very small part of it. The pupils, having mastered the military evolutions, give to them daily not more than fifteen minutes of the period for physical training. Let there be also a few minutes given to such exercises before meals, school, or chapel, varied with the occasion. Require a prompt reporting and falling in, and run through them in a brisk, snappy way.

In homeopathic doses like this the military drill should not harm the pupils. There are few boys who do not naturally respond to the thrill of things soldierly. It is only the overdoing of the matter which creates aversion. And such small amount of drill serves a useful and desirable end; for while the growing boy and youth should be given much of freedom and individual scope in education and training, in exercise, sport, and development, he should also come in some measure under restraint. The application of perfect attention, absolute obedience, and thorough unison in action, which is the military ideal, cannot but have a salutary effect. Especially do boys need the lessons in orderliness, in "policing," required by the military system.

To be sure, the same principles and effects are aimed at and are carried out in physical training at its best, with its classes in various calisthenic

exercises and its insistence on good order, but the idea is primarily military and may well be inculcated through the means of such modified military drill. Military drill, too, like gymnastics, should be restricted chiefly to the winter season. Little if any should be required in the autumn and spring, when the great outdoors with its legion of sports is calling to every red-blooded boy. For it is through these competitive games and sports, as above described, that the best moral training and the best physical results are gained.

ROBERT L. ERD,
Instructor in Physical Training in the Michigan School, Flint, Michigan.

TWO MOTHERS[1]

One day while I was visiting a third grade in a hearing school, the teacher called my attention to a boy a little larger than the rest. He seemed to be about ten years old, and his face had a distressed, strained, and sad expression. "That boy should be placed in a school for the deaf," said the teacher. "Owing to our defective education law concerning the deaf, we have not been able to have him so placed. No influence we can bring to bear on his mother will move her. She seems perfectly obdurate, and the boy, who was at the head of his class before an illness two years ago, now sits dully through the

[1] Extracted, by permission, from "Problems of the Mother of the Young Deaf Child," in the *Volta Review* for July, 1919, vol. xxi, no. 7.

hours of school. With our crowded classes it is impossible to do much for the special ones, and so he feels neglected. He told his mother that I did not like him any more. 'The teacher used to call on me to recite first every time,' he told his mother, 'but now she never asks me to.' What a pity to injure a child because of a mother's misconception of her duty! She clings to the boy and keeps him at home, when he ought to be sent away to school."

I went to see the mother to try to persuade her to send the boy where he could be taught by teachers trained for such work, but she was positively mulish. I could see her put back her ears and set her teeth, donkey fashion. She was ignorant and suspicious and seemed to be hoping for something, anything but to let her child go away from her. I thought of the many mothers around us who had sacrificed their grown sons, the embodiment of a lifetime of mother's hopes and ambitions and achievements, to the vicissitudes of war, and I thought of the unselfishness with which they gave up these men they love, in the name of that intangible thing we call patriotism.

In contrast with that other mother, I was glad to go one day soon after to call upon a silver-haired old friend of mine. She was sitting on her wide veranda, with a far-away look in her face and an open letter in her hand. She did not see me until I had spoken, and after seating me in the most comfortable chair beside her, she said, "To-day is my Henry's birthday. He is forty-five to-day and I have had a letter from him. Although it was many years ago, two days in that long ago come back to

me like yesterday and to-day. As you remember, Henry became deaf at twelve years of age. One of the mornings which I remember so distinctly was a month or so after the fever had left him, when Henry slept so much later than usual. I had called to him without an answer. Frightened, I hurried to his bedside, and found him not asleep, but wide awake in bed, not noticing me until I stood before him.

" 'Mother,' he said, 'my ears feel as if they had cotton in them. I can see you speaking, but I can not understand your words.'

"I remember every detail of his room that morning—the sun coming in at the open window and falling upon his bright hair, the wistful, perplexed expression on his delicate little face, and the appeal in the beautiful eyes.

" 'What are you saying, mother? Speak it louder. Come closer.'

"The fact of his deafness pierced my consciousness like a sudden pain. I recalled the doctor's warning during the anxious days of Henry's illness. 'If he lives,' he had said, 'do not be surprised to find your child affected either in his mind, sight, or hearing. He may become a cripple. Meningitis seldom leaves its victims unscarred.'

"Because Henry had convalesced so rapidly I had forgotten the physician's warning, but now there was no doubt. At first the deafness was not total, but as it seemed to increase through the summer, I began to feel the impending tragedy of sending him away to school.

"He would have entered the sixth grade of the public school in the fall and he liked to study. All

summer I kept him reading to me for a little time each day. I often asked him to tell me things, so he would not forget how to talk, and all the time I could see that he ought to be sent to a school where those especially fitted for their work could teach him. I had heard of lip-reading, but I did not know how to go about it. Even afterward in school Henry found this a rather difficult undertaking, much more so than if he had begun it when a baby. However, he became fairly proficient, and to-day strangers seldom know that he cannot hear, so long as he is facing them. Four months I fought the selfish mother in me that would say, 'I cannot give him up.'

"We took Henry away for the summer. We camped beside a quiet lake, so that the boy could grow strong in the open air, and so that he might become accustomed to his new condition gradually away from his friends. As he grew used to the silence, Henry was not unhappy. Only when he came upon me at times in tears did he seem distressed and sorrowful. So, for his sake, I tried hard to seem cheerful.

"As fall approached, we journeyed home, and the other of the two memorable days of which I have spoken was the morning the village school opened. Henry was chopping wood in the back yard when I heard the school bell ringing. Groups of boys and girls in fresh, ready-for-school costumes, noisy and happy, passed the front gate. My heart was very heavy and I could look no more for the blinding tears. Nothing had been said of school to Henry. Neither had he mentioned it. As I had been watching the groups hurrying or loitering past, I had heard the drop of the axe in rhythmic action.

"Suddenly the sound ceased, and I glanced through the window to see what Henry was doing. He was standing, a lonely little figure, leaning on the handle of the axe and looking, as I had done, at the procession of passing children. Presently he let the axe fall heedlessly, and with his head bent low came slowly toward the house. As I saw him coming, I made up my mind—Henry must go away to school. The door opened slowly and the little man came in. 'Mother, does school begin today?' he asked. I nodded affirmatively. 'Then why am *I not going?*' Before I could think how to answer, he asked, 'Am I never to hear again, mother? Then what will become of me? Shall I grow up to be like Pete Harmon?' These questions came quickly.

"Pete Harmon was an unlettered deaf man who could not do more than write his own name. He had been allowed to grow up in ignorance, and knew nothing more skilled in labor than driving a team for a living. His disgusting grunts and guttural noises, combined with facial grimaces, were pitiable in the extreme. Had I not already arrived at a decision, Henry's reminder of this untutored example of neglect would have settled it. I have never regretted the resolution of that morning. I have always been glad and thankful that I had the strength of character to give up my boy at the right time.

"I showed Henry a picture of the school where he could go the following week, and busied his mind and mine with plans for the packing of his new trunk which we purchased that day. A leather handbag accompanied it, and Henry was allowed to select portions of his wardrobe. The choosing of a new suit, new shoes, and a new hat, with a

number of fresh, pretty shirts, and several bright-colored ties, would interest even a boy. Occupied with deciding whether red ties or blue were the more becoming, and whether dots or horseshoes were preferred in the shirt material, not to mention attention to other necessary trifles, there was little opportunity for tears. Some of his favorite books found a place in the packing, and a watch and chain from his father made Henry's eyes dance with happiness.

"After we had taken our boy to the school and had seen the happy faces of the returning students, and even the interest of the new arrivals, as they were initiated into the mysterious attractions of their first school days, we felt satisfied that Henry was in good hands and that he would be happier than he could ever be at home. Sympathetic association with others of like needs is something that no deaf child should be denied. It is not only easier to teach a child in a class with others, but he will learn much more readily with rivalry as a spur, and he will more quickly acquire habits of order and obedience. It is easy to conform to public sentiment and, when a class obeys, the individual child thinks of doing nothing else. I decided to learn all I could from Henry's teachers and from books concerning the deaf, so that I could intelligently supplement the work of the school during Henry's vacations; and I am proud of the fact that I had a part in the education of a man who holds a place in his chosen field of science second to none."

As the mother ended her story, a gleam of sunshine stole through the leafwork of the vines and cast a golden benediction over the quiet figure who sat smiling—a bright smile, a smile of peace.

MYRTLE LONG HENDERSON,
Des Moines, Iowa.

THE MYSTERIES OF SPEECH UNVEILED[1]

There is at the present day no question more misunderstood than that of the production of the voice and of hearing. We do not know what is the constitution of the sounds emitted in the action of speech, even in the most elementary cases.

The above statement is most authentic, for he who speaks thus is no other than Mr. G. Weiss, professor in the Faculty of Medicine of Paris and member of the Academy of Medicine. Until recently, in fact, no one had even succeeded in raising the veil which covers this mystery: the physical laws of human speech. We knew vaguely by what mechanism speech is produced, but we did not know the entire process. As for the very nature of the sounds and their inward constitution, we had remained for centuries in error. What is the sound of a vowel, of a consonant? What are the laws of that intonation which, in speech, infinitely transforms the sound of one and the same word, and so richly modifies our speaking or singing voice? Unknown quantities. On all these subjects biologists and medical specialists are scarcely better informed than laymen.

This lacuna in human knowledge has been filled up by French science, which, once more asserting its might, has brought to a successful result some researches into the nature of sounds in general and of speech in particular. The importance of these researches is not merely theoretical and is not confined within the limits of pure science. Moreover,

[1] Translated, by permission, from *Lectures pour Tous* for March, 1918, pp. 754–762.

can we forget that there is no great discovery of a practical nature that has not had its birth in the work, merely theoretical in appearance, of the laboratory?

Thanks to recent studies, of which we shall give the outline, the mystery of speech is going to be cleared up, and *speech, when it is better understood, will be better taught.*

The practical applications of which we are going to show the certain and immediate benefit relate, in fact, to all the branches of education or of medicine which have to do with these functions so closely united: speech and hearing. Articulation for deaf-mutes, instruction in foreign languages, lip-reading —that subtle art which for the deaf takes the place of hearing—the reëducation of the ear in children and in soldiers wounded in the head or deafened by gun-firing, the measurement of the degree of hearing until now imperfectly practiced by physicians, the teaching of singing and the pitch of the voice—many domains of the intellect—are going to be transformed and governed by the scientific method which hitherto has been lacking to them.

The National Institution for the Deaf in Paris is the cradle of this discovery, the importance of which is evidently considerable from all points of view. It was in 1912 that its director, Mr. Victor Collignon—a zealous and enthusiastic administrator, devoted soul and body to his work, his fellow laborers, and his pupils—established a laboratory of speech, in which the use of the instruments employed permits a strictly scientific and extremely precise study of the human voice. For several years he had seen one of his most remarkable teachers,

Mr. Marichelle, author of "*La Parole d'après le tracé du phonographe,*" accomplishing wonders in the instruction of the deaf. He had followed step by step the important work of this modest scholar, leaving his schoolroom where he had been teaching the alphabet to little deaf children, only to shut himself up in his study and there earnestly seek to find an answer to the eternal question: What then, after all, is our voice?

MR. MARICHELLE'S LABORATORY

It is in this little laboratory, which is destined to become famous, perched in the upper story of the Institution in the Rue Saint-Jacques, near the sky, where Sully's famous tree, now cut down, no longer waves its old branches, that we find Mr. Marichelle at work among his tuning-forks, his phonographs, and his registering instruments. A multitude of little papers covered with microscopical drawings, which he has brought together for our benefit, are heaped up on his table. Behind his spectacles shine his joyous eyes, a little dimmed by the innumerable hours passed during long years in deciphering with the microscope the registered impressions of the musical sounds of speech and of song.

"Does it not seem to you rather incongruous," he began with a smile, "to study the voice among those who cannot speak? Is not a laboratory of speech in a school for the deaf, at first sight, a paradox? Yet it is with the insane that we best study the reason, with invalids the conditions of health. Why should not the mysteries of speech likewise reveal themselves clearly with the dumb? 'It is in the clock that

is out of order,' says Taine, 'that we must study the mechanism of the delicate works that make the hands go round.' The teachers of deaf-mutes are the clock-makers of speech, and one can question them with confidence concerning the mechanism of this complicated apparatus, the vocal organ. They are especially competent to interpret the documents recorded by the registering instruments. Moreover, necessity is a powerful motive. Where does one feel the necessity of understanding the phenomena of speech more keenly than in the schools where the task is undertaken of restoring the faculty of speech to those whom nature has cruelly deprived of it? It was, then, very natural that a laboratory of speech should be established here and that it should yield results.

"Speech is nothing but a grouping of *sounds* and *noises,* produced by the movements of the vocal organs. Sounds and noises appertain to the phonograph.

"The phonograph is an ear which retains forever the trace of its impressions. In the wax of its cylinders are engraved characters which have this advantage over ordinary written characters, which are only the silent signs of objects, that they are able to reproduce the sounds themselves, the reality. In them the phenomena of sound, with the infinite variety of its most delicate nuances, can be studied and, so to speak, dissected, to the great profit of the science of speech. Perhaps these newfangled hieroglyphics running along these little strips of paper seem to you, at first glance, crabbed. Have a little patience. Their interpretation is not so difficult as it appears.

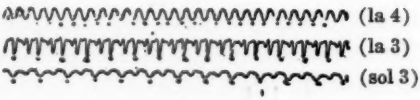
"In the first place, how do we obtain them?

"We might study on the cylinders themselves, with the microscope, the impressions left in the wax by the voice or any other sonorous vibration, or we might photograph them. But it is much more convenient for the purposes of observation to reproduce on a plane surface, on a sheet of paper, the curve traced around the cylinder by the registering styles. This reproduction offers us in its sinuosities all the necessary elements of information. In the apparatus before you, due to the ingenuity of Mr. Lioret, a blunt point of sapphire, like that which is used in the phonograph for the reproduction of a piece of music, follows along in the furrow imprinted in the wax. It is provided at the lower end with a double lever, which carries at its other end a special pen; this in its turn inscribes upon a sheet of movable paper, with the amplification desired, all the vibrations previously registered on the wax cylinder.

SOUND IS NOT NOISE

"Since speech is a succession of *sounds* and *noises,* let us first see how these two great categories of vibratory concussions are distinguished on the phonograph. Here on this little strip of paper is the sound produced by the *la* of the tuning-fork.

Sounds

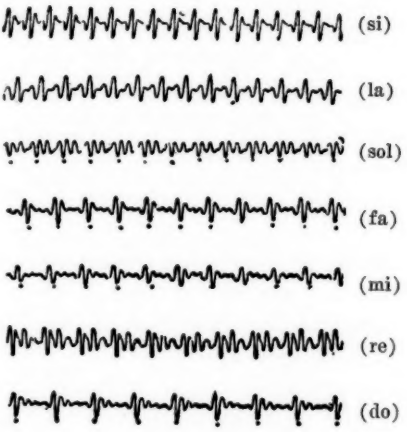


Graph 1

"The sound produced by the tuning-fork gave vibrations which cut into the wax, through the medium

of the surrounding air, a series of little notches all alike. Transcribed mechanically upon the paper by the means which I just now described to you, these notches appear thereon under the aspect of a sinuous line formed of curves resembling one another. There are thirty-five of these indentical curves in the figure, which will make the thing perfectly clear to your readers.

Sounds



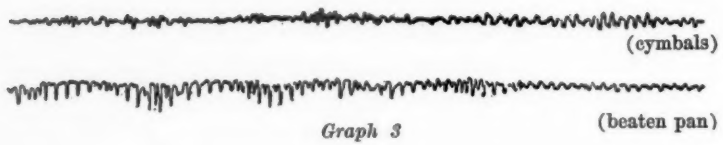
Graph 2

That means that during a certain time the prong of the tuning-fork executed thirty-five movements backward and forward, imperceptible to the eye, and these movements produced vibrations in the air—thirty-five double vibrations, as they say in acoustics. Well, notice that in all these patterns, whether they are produced by a *la*, by a *sol*, by a note of the flute, or by the vowel *a* spoken by the human voice, we find the succession of one and the same

figure or *period,* different for each of them and characteristic of each of them. *It is this constant repetition of one vibration always similar for a given sound, this periodical return of one and the same form, that is the distinctive mark of sound properly so called, the regular or musical sound.*

"With noise it is entirely different. Examine for a moment the transcription of the noise of cymbals, the noise of a triangle, and the noise of a frying-pan when beaten.

Noises



Graph 3

The vibrations inscribed upon the wax of the cylinder having no symmetry, it is impossible to find, as in the case of sounds, any regular grouping in the patterns, any figure which is like that which precedes or follows it. Sound, then, is order, grouping, regularity, and organization. Noise is disorder and anarchy."

THE QUALITIES OF SOUND

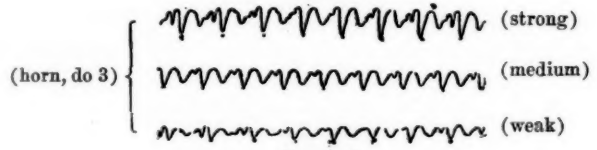
Can one, with the same facility, we ask Mr. Marichelle, discover in the graphical records the distinctive signs of the qualities of sound—*pitch, intensity,* and *timbre?* Can one carry this delicate analysis to its last limits?

"We have only to open our eyes and to be able to take a measurement with the millimeter. Let us verify it together. In this little picture I have

grouped together for your benefit a certain number of sounds. Well, what do you immediately observe? On each line, representing graphically each note, the regularly repeated patterns, the periods, become shorter as the note rises. Conclusion: the long periods are those of the low tones, the short periods are those of the high tones. So much for *pitch*.

"As for *intensity*, that is still easier to observe on the graphical records. As in the human ear the intensity of a sound is measured by the force of the vibrations which strike upon the membrane of the tympanum, so on the cylinder it is marked by the depth of the incisions, and on the graphical records, as you observe, by the accentuation more or less of the lines drawn by the pen.

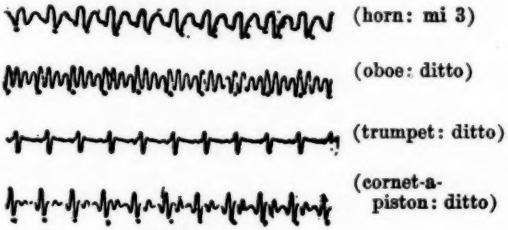
Intensity



Graph 4

"Of all the characteristics of sound, *timbre* is the most difficult to determine, and the explanations given of it hitherto have been very vague and confused. Now look at this picture which I have made for your readers.

Timbre



Graph 5

Here is one and the same note, *mi,* given successively on the horn, the oboe, the trumpet, and the cornet-a-piston. What do we immediately observe? On the four sinuous lines, the periods which constitute them are all of the same length; on each line, their number is twelve. Consequently the pitch is the same. We see also that the four tracings are of the same intensity; in none of them has the pen broadened its stroke. Second conclusion: the intensity is the same. How does it happen that the impression on our ear, on the audition, of this one and the same note is produced differently by the four different instruments, and how do we read this difference on the graphical records? By the extreme dissimilarity of the pattern which strikes the eye as we pass from the record of one instrument to another. Is it not natural that the slightest modification in the form of the curve transcribed should correspond to a different impression, when a feature slightly out of place in the human face changes entirely the expression of the physiognomy?"

THE MECHANICAL CAUSES OF SPEECH

Fortified by these notions of phonographic reading, we now asked Mr. Marichelle to inform us concerning the deciphering of human speech on the wax cylinder on which, according to the saying of one of Rabelais's characters, words remain "frozen" for the use of future generations.

"I was just coming to that," he said, "but before reading, let us recall, to make the subject clear, what are the first causes of the vibrations we are going to study.

"Sounds, whatever they may be, always have their origin in movements. The sounds used in language are the result of special movements executed by various organs—the vocal cords, the tongue, the lips, and the soft palate. The vocal cords, by their own vibrations or those of the current of air which passes over them, furnish the first material, the voice, which is going to be stamped in the buccal cavity with the effigy of our different vowels and our different consonants. The voice, it may be said, is the material of which human speech is made, and it is in the mouth that this material is then fashioned in a way to be adapted to our ideas and sentiments.

"Take for example the vowel *ē*. The tongue is brought very near to the palate in the anterior part of the mouth; it touches the arch of the palate on each side, and the vibration produced in the larynx must, before coming out into the air, pass through a narrow channel, quite analogous to that which is formed between the two lips when we whistle. If this passage is opened a little more, we have *ā*, and if still a little more, *ai* (as in *pair*).

"Now the movements of the lips intervene and bring their modifications. The [French] *ū* is formed by the passage of the sound through the same channel, the same region, and the same outlet that gives *ē*. But the lips, by being rounded and protruded, change the sound into the [French] *ū*.

WHAT ONE READS ON THE CYLINDERS

"Such, hastily sketched, are the mechanical causes to which are due the important sounds we name the vowels. Under what form will they present them-

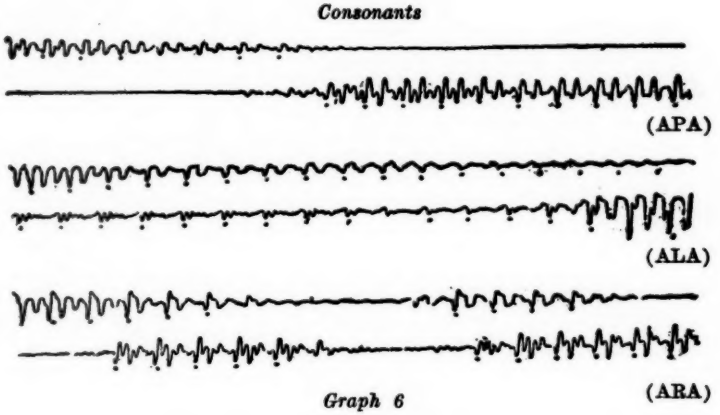
selves in the phonographic writing? What is their musical composition? What are they, finally, in themselves—these vowels of which hitherto we have known only the causes? Are they distinguished from one another by differences of pitch, of intensity, or of timbre? A very simple observation enables us to reply. Any two vowels whatever, *a* and *o* for example, may be spoken on the same note, at the same pitch, and with the same intensity; they sound different, however, to the ear. It appears, therefore, that each has a *timbre* of its own, as two *sols* given at the same pitch and with the same intensity by a horn or by a violin have each a different timbre. Each then is characterized by a special pattern of its own. We shall perceive that if we compare their several graphical records.

"Other phenomena may be observed on these records.

"On the sheet where the vowels are grouped two by two, one *weak* and the other *strong,* it is easy to read the difference in intensity by the accentuation more or less of the tracing made by the registering pen. The reading of the graphical records shows that the production of the elements of speech acts like a draw-frame in which the vibration of the voice is attenuated according to the narrowness of the apertures it meets on its way.

"Let us pass to the second category of the sounds produced in speech, namely the consonants. The apertures of the draw-frame of which we just now spoke are always narrower for consonants than for vowels. Therefore, the resistance which is opposed to the coming out of the voice is greater and consequently the intensity of the sound is weaker.

"The consonants then are sounds more or less weak, just as the vowels are of different degrees of strength. But let us read them on the graphical records, which will make the fact evident. Here, for example, is a *p* between two *a*'s, *apa*, registered on the paper.



Graph 6

In the first half of the record, the first vowel gradually diminishes its sinuosities as it approaches its end, and finally dies away into a straight line with no accentuation; this line continues until the second vowel is reached, when the sinuosities peculiar to the *a* begin again, and go on increasing to the end. This straight line, almost imperceptible, without pattern or force, is *p*, this *p* which the ear recognizes in like manner by the vibrations growing less and less intense as we pass from the vowel to the silent part of the consonant, then by the more and more intense vibrations which connect the second vowel with the consonant. The explanation of this gap, which represents the *p* between the two *a*'s, is that when we

pronounce *apa,* the emission of the voice is interrupted for an instant by a complete closure of the mouth. It is the same when we say *ata* or *aca;* the consonants *t* and *c* disappear from the registry.

"The phonograph explains to us how the consonants answer to their designation. *They sound with the vowel;* they are themselves merely depressed forms. Certain of them, however, manifest on the cylinder a veritable individuality; for example, *l* and *r.* The reason is that for these letters the current of sound is not completely interrupted. The passage is only more restricted than for the adjacent vowels.

"As to the *r* registered between two *a*'s, instead of the simple stipple shown in *p,* there are two sinuous patterns. What do these indicate? The trill executed by the point of the tongue.[2] Why are they separated by an empty space? Because at a certain instant the tongue is in contact with the palate and at that instant the sound no longer passes through. The record even enables us to perceive that each of these trills lasts about one-thirtieth of a second."

THE GRAPHICAL RECORD EXPRESSES FEELING

Syllables are formed of vowels joined to consonants, and the words our voice pronounces are made up of syllables. But with the word does there not appear a new element, the *idea,* which reacts through our speech even upon the material object to which it gives form? The feeling which gives a soul to the vibrations of our voice and according to its nature somehow colors our words differently—can this,

[2] In French the trill is more pronounced than in English.

too, be read on the phonographic writing, and how does it manifest itself? This is the question that we put to Mr. Marichelle. His answer was prompt.

"Let us take for example the two syllables *a-lé.* They have no meaning; they are inert and amorphous. But the word *Allez,* composed, however, of the same phonetic elements, appears to be, as it were, endowed with life the instant that it is used to express one of its meanings, which are many and various.[3]

"Well, none of these different inflections of the voice can escape registration, since they are all contained in the sound waves that convey them to our ear. Consequently none can escape our eyes and our analysis.

"The registration on the phonograph assures us then, you see, the means of analyzing all the modulations of the spoken voice that animate the simplest conversation or characterize the manner of different actors. Henceforth we can record on paper, we can perfect and transmit from age to age this music more flexible than any other since it proceeds by infinitesimal fractions of tone—'the touching melody of the spoken voice.'"

THE CONTROL OF INTONATIONS

Mr. Marichelle is not satisfied with having revealed to us the mystery of human speech. Already practical applications of the method he has established are appearing. Naturally it was in the establishment in which the laboratory was founded that

[3] *Allez* means "Go," "Begone," "Take heart," etc., according to the context and the tone in which the word is spoken.

it was first put to use. Take for example this matter of intonation, of which we have just indicated the principal elements. Young deaf-mutes, it is known, are made capable of pronouncing with sufficient clearness the vowels and consonants and the syllables formed therefrom. But listen to the speech of a deaf-mute, since this miracle is now generally realized. You will observe that he gives every vowel on a single note. All his *a*'s all his *o*'s, have the same sound. While all sorts of inflexions and cadences make of ordinary speech a most impressive music, the speech of the deaf remains always like itself, monotonous, almost stereotyped; it is only its purely mechanical and artificial content that reaches the ear.

How did we learn to modulate the voice, we who escaped the misfortune of deafness? In the simplest way in the world and, like Mr. Jourdain, without suspecting it, by the effects which our own voice produced upon our own ears. In the ordinary person, the ear controls speech and, just as the child learns to walk perfectly, the marksman to shoot accurately, so we, by groping our way, little by little, without our knowledge, acquired all the subtleties of intonation.

The deaf have no hearing and cannot perceive the effects of their speech. This is the reason they cannot modulate the voice. But in teaching them to speak, the sense of touch can, to a certain extent, take the place of hearing. With his hand on his teacher's throat, the pupil comes to distinguish the high notes from the lower notes by the vibrations of the organs used in speech, and then by groping his way he finally is able to reproduce them.

To this method, which hitherto, through the patience and perseverance it requires from both teacher and pupil, has been applicable only to some pupils better endowed than the rest, the phonograph, scientifically employed by Mr. Marichelle, brings a wonderful precision. The record on the wax and its enlarged reproduction on the paper enable the instructor to follow step by step and to control the slightest progress that the voice of his pupil makes.

Take a child who has not yet received the first elements of intonation, and let him speak a short sentence into the phonograph. Repeat the experiment, asking him to express in the same words different feelings—anger and gentleness, for instance. At first the pattern will remain just the same; the tone will not vary. But give the child some exercises in touch for a few minutes, two or three times a week, and from time to time take records of his speech on the phonograph. At the end of a few months you will find that he has succeeded in modulating the sounds of his voice to a certain extent. A young Roumanian lady, Mrs. Popescu, a teacher of the deaf in her own country, who with other foreigners has been taking a course in phonetics at the National Institution at Paris, has thus obtained some very curious records from the sentence, "Do not run!" as pronounced by the same child at the beginning, during the course, and at the end of his lessons in intonation. Gradually the record, at first invariable, has been modified and shows the efforts of the voice as it attempts to rise or descend.

The same service may be expected of this method in reëducating an injured or diseased ear. The great number of soldiers who have become deaf in conse-

quence of the explosion of a mine, or from bullet wounds or the bursting of shells, gives the matter much importance. Total deafness rarely exists. There almost always remain traces, however slight, of audition, and it is of course extremely useful to be able to ascertain the exact condition in order to direct properly the reëducation of the ear. Until now it has been possible to determine the degree of hearing that remains only in a very rough and vague fashion.

Now the study of speech according to the phonographic records has shown us that the vowels do not all have the same intensity. The same ear at a certain distance hears *ah* and does not hear *ē*. So also with consonants, which are all of feebler intensity than the vowels. All these facts of absolute exactness which the phonograph gives enable us, through repeated and methodically conducted experiments, to circumscribe perfectly the field of audition which still exists; still more, they indicate to the reëducator the manner in which he must compose his exercises while making use of the hearing which the affected ear retains, and the order in which he must arrange them, so that the learner may gain ground little by little. At the present time our soldiers are receiving the benefit of this new method at the National Institution in the Rue Saint-Jacques.

HELP FROM THE "MOVIES"

The cinematograph here adds its contribution to that of the phonograph. The examination of films recording the successive movements of a mouth in speech has also transformed the method of teaching

lip-reading. Formerly, in order to study more readily the mechanism of the organs of speech, they began by immobilizing them; they photographed a mouth pronouncing the letters of a word one after another. In this way they studied the elements of speech artificially isolated. Experiments have shown that the moving pictures of a mouth pronouncing a word as a whole are not the same as the photographic pictures representing the successive positions that the mouth takes in emitting each letter of this word separately.

The scientific measurement of the hearing, which in future must be made the basis of all the treatment given to those who do not hear perfectly, is called upon to render still another important aid in the education of children. The faculty of hearing and that of speech are so intimately connected that imperfect hearing during early childhood may bring on mutism.

Deaf-mutism is happily quite rare, but how many children there are who habitually mispronounce words and constantly make mistakes in spelling which are always of a peculiar nature, as, for instance, those people who all their life persist in calling a *corridor* a *collidor*. There is no doubt, Mr. Marichelle says, that these mistakes in pronunciation are caused by defective hearing, by confusion, for instance, of the sounds of *r* and *l*. An observation made by a kind friend may suffice to correct the error in hearing and consequently the error in pronunciation. But not everybody is disposed to receive corrections with good grace, and that is why Napoleon, according to his biographers, retained his errors in pronunciation until his death.

"As it often happened to him," Count Chaptel tells us, "not to hear distinctly the words which were spoken in his presence, he always reproduced them as he had heard them. Thus he habitually said *section* for *session, armistice* for *amnesty,* the *Philippic* Islands for the *Philippine* Islands, *fulminating* point for *culminating* point, etc."

Only a rigorously scientific examination enables one to ferret out the first manifestations of defective hearing in children, and such an examination is possible only to one who knows the exact laws of speech.

[Here some paragraphs relating to the value of Mr. Marichelle's work for teachers of music are omitted in the translation, as not coming within the scope of the *Annals.*]

The labors of Mr. Marichelle, it will be seen, have a wide practical range. After having shown the long error of the theories of Helmholtz and finally discovered the truth which for centuries escaped all investigations, they promise in the future an inestimable benefit for all those, whether children or wounded soldiers, whose speech and hearing are impaired, and, bringing together in a striking manner deaf-mutes and lyric artists, afford valuable suggestions for the education of children and for the teaching of singing.

ARMAND RIO,
Paris, France.

SCHOOLROOM SUGGESTIONS

The following outline makes no claim to originality; it is written with the hope that it may be of some use to the inexperienced teacher in the smaller schools where there is perhaps no guiding hand of a supervising teacher and where materials may not be in abundance. I have in mind particularly schools where the young teacher faces the problem of two grades in a class, where "Busy Work" plays an important part in keeping one division occupied and happy while the other is under instruction.

I find with our normal students that they frequently look forward with apprehension to the first few weeks in school with a beginning class. They feel at sea as to the best way to fill the five hours of instruction for restless little children whose powers of attention and concentration have not been developed.

For this reason, I have added a tentative programme for a day's work during the early weeks of school in the hope that it may be found suggestive.

Busy Work[1]

A. Peg boards. (See Milton and Bradley Catalogue.)

1. Simply stick pegs into the board regardless of color or design.
2. Put pegs of the same color in a row.
3. Alternate colors in each row.
4. Alternate colors by twos, threes, etc.
5. Peg-board race. The children start at the same time and see which can fill the row first with

[1] See also Mrs. Hurd's article, *Annals*, xli, 88-97.

pegs of the same color. When the board is filled the children race to see which can pull out all the pegs first.

6. Fill the peg board with pegs and then cover the pegs with wooden beads of the same color and of uniform shape.

7. The teacher makes certain designs with pegs of various colors and the children copy the designs. The children make original designs.

B. Weaving.

Begin with mats with only two slits, then three, etc. Use stiff strips of cardboard at first for weaving instead of the weaving needles. When the children understand the principle, introduce the cloth mats which can be used over again, and later the paper mats, which require more careful handling. Later many different designs may be made. The finished mats may be made into hanging baskets.

C. Wooden beads for stringing.

Use Milton and Bradley shoe lacings. The beads come in different colors and shapes.

1. String beads regardless of shape or color.
2. String all of a color together.
3. String those of uniform shape.
4. Alternate two colors.
5. Alternate two shapes.
6. Alternate two colors and shapes.
7. Three different colors and repeat.
8. Three different shapes and repeat, etc. These exercises may be varied in many ways to keep the child's interest and at the same time give him some idea of form, color, and number.

D. Stringing glass beads and shells; stringing papers and straws alternately, etc.

E. Putting together dissected pictures and post-cards. These should be very simple at first. The picture should not be cut into more than two or three sections; later they can be made quite complicated.

F. Drawing with wax crayons.

1. Fill in large squares with a single color of the primary colors for each square, trying to keep within the outline.

2. Fill in circles, oblongs, triangles, etc.

3. Use smaller circles, squares, etc., as the child gains in skill.

4. Fill in simple outlines of leaves, fruits, flowers, etc.

5. Use wooden insets of different shapes, letting the child trace along the inside edge of the inset with a pencil; fill in with color. These exercises may be made more difficult as the child becomes more skillful. Later, as he learns the use of scissors, drawings may be colored, cut out, and put together. (See Milton and Bradley Catalogue for designs of this kind of work.)

6. Perforated cards may be used by placing the card over paper, making dots on the paper through holes with a pencil, and then removing the card, joining the dots with lines, and filling in the picture with colored crayons.

7. Tracing pictures through thin paper and coloring them, etc.

G. Sewing cards.

At first use very simple designs with large perforations. Use Milton and Bradley colored shoe-

strings instead of thread and needle. Later blunt-pointed needles which the children can thread themselves may be substituted for the shoestrings, with worsted or embroidery cotton.

H. Simple designs for "pricking."

For this exercise pads will be needed to put under the cards. Pricking needles and pads may be secured from Milton and Bradley. It is best to use "lap boards" on the desks to prevent marring the desks with the needles.

I. Parquetry blocks.

The children imitate the teacher in making simple designs. The children make original designs. Sense training in color and form may be worked in with this exercise.

J. Modeling with plasticine.

The children try to make simple designs, as chairs, tables, marbles, balls, apples, baskets, etc.

K. Blocks for building.

L. All Montessori material may be used as "Busy Work."

Sense Training

A. Color.

1. Match six primary colors, using blocks, balls, cloth, worsteds, etc. At first match like objects differing only in color. Next use unlike objects of the same color.

2. Introduce different shades of the primary colors and match these.

B. Number.

1. Use pencils, balls, books, blocks, beads, sticks, etc. The teacher shows a certain number of these and the child tries to pick out the same number.

2. Draw a certain number of lines, circles, squares, etc., on the slate and let the child reproduce them.

3. Show a certain number of blocks, sticks, etc., then remove them from sight, and have the child show the same number, etc.

C. Sight.

1. Match blocks, sticks, surfaces, solids, of the same shape and size.

2. Match blocks, etc., of the same shape, but differing in size.

3. Match surfaces with solids of the same shape.

4. Match duplicate pictures.

5. Match pictures and their silhouettes.

6. Have a large card with many different silhouettes pasted on it and small cards with individual silhouettes. The teacher holds up the individual card and the child finds the same silhouette on the large card.

7. Match materials of the same color but of different textile, using sight only.

D. Touch.

1. Blindfold the child. Let him feel one of a group of blocks or shells, etc., of different shape. Remove the blind and see if he can find the object he had in his hand.

2. Let the child choose one of a group of objects, blindfold him, and let him try to recognize the object by touch.

3. Use material of different textures, as velvet, silk, satin, serge, etc., in the same way.

4. Objects of the same shape and size, but differing in weight, may be used in this way.

Tentative Programme of a Day's Work for a Beginning Class

(To be used during the first few weeks in school.)

8 A. M. Opening exercises.

The teacher gives a morning greeting to each child.

Prayer. The children stand and watch the teacher while she says some simple little prayer.

Salute the flag.

Mark off the day on the blackboard. If the weather is pleasant, draw a sun; if cloudy, a closed umbrella; if raining, an open umbrella, etc.[2]

8:15. Articulation.

Breath sounds. At first the child tries to imitate the sound made by the teacher. When he can give the sound in this way, it is connected with the written form, using sandpaper letters mounted on cards. As the child says the sound he is shown the letter and traces it with his forefinger.

8:25. Ball.

The teacher tosses the ball to the children, who stand in a line and throw it back.

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[2] See Miss Taylor's article on "Calendar Work" in the *Annals*, lxiii, 475-478.

8:30. Lip-reading.

Commands: Run, Fall, etc. Individual work.

8:40. Busy Work at desks.

Peg boards.

8:55. Gymnastics of arms, legs, body, etc., in unison, following the teacher.

9:00. Lip-reading.

Objects: a ball, a shoe, thumb, etc. Individual work.

9:10. Commands in unison for lip-reading. The children all stand and together go through actions as the teacher speaks, as Run, Sit down, Dance, etc.

9:15. Sense training.

Color.

9:25. Writing at the blackboard.

Children trace elements that they have had for articulation.

9:35. Tongue gymnastics. Breathing exercises.

9:40. Busy Work at desks.

Weaving.

10:05. Lip-reading.

Elements. As the teacher says an element, the child picks up the corresponding letter.

10:15. Sense training.

Number.

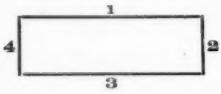
10:25. Recess.

10:45. Articulation.

Work on new sound.

11:00. Drawing at the blackboard.

Make some very simple design, having the pupils follow the teacher line by line, as, for example—



This is simply to keep the attention of the children and have them learn to work in unison. The teacher does not draw a line until all eyes are on her, then the children draw at the same moment.

11:10. Preliminary diagram work.

The teacher draws the profile of one of the children on the slate, drawing in the eyes, hair, etc. The children point to their own features as the teacher points to those on the slate.

The teacher points to a pupil's features, and the children take turns in pointing to the corresponding features on the drawing.

Gradually the diagram becomes conventionalized and with each new element the diagram for it is introduced.

11:30. Rhythm work at the piano.

11:45. Recess. Out of doors for fifteen minutes.

12:00. Articulation.

Combine breath sounds.

12:10. Sense training.

Touch.

12:20. Busy work at desks. Dissected pictures.

12:35. Gymnastics. "Follow the Leader." The children follow the teacher as she moves about the room, skipping, walking, hopping, etc.

12:40. Lip-reading. Objects. Class work. With all eyes on her the teacher repeats the objects with which the children are familiar, and they take turns finding them.

HELEN FAY,
Teacher in the Kendall School,
Washington, D. C.

THE FIFTIETH ANNIVERSARY OF THE HORACE MANN SCHOOL

The fiftieth anniversary of the Horace Mann School of Boston occurs on November 10, 1919.

The school was opened on November 10, 1869, in a few rooms at 11 Pemberton Square, where the Court-house now stands, with Miss Sarah Fuller as principal, and nine pupils. It was the first permanent oral day-school for the deaf in the United States, and the first school for the deaf to be incorporated as a part of any regular city public-school system.

To the Rev. Dexter S. King, at that time a member of the Boston School Committee, belongs the honor of securing to the children of Boston and vicinity the advantage of a free public elementary education without leaving their homes. Under his wise guidance the new school for the deaf came into existence as a state-aided city school, and has proved to be a pioneer in the field of special education, as the underlying idea of a combination of state and local financing of day-schools for children of special needs has been widely copied or adapted throughout the country during the past fifty years.

In 1875 the school moved to a building in Warrenton Street where it remained until 1890, when it was transferred to our present school home at 178 Newbury Street—a building erected by the city upon land given by the State of Massachusetts.

During this long period the school has had but two principals: Miss Sarah Fuller, who retired in 1910, after forty-one years of faithful, loving, wise,

and untiring devotion, not only to the Horace Mann School, but to the interests of the deaf everywhere; and Miss Ella Celynda Jordan, the present Principal, who in her short term of service has faithfully, loyally, and successfully carried on the tradition of the school, with wise adaptation to changing conditions.

The school at the present time has one hundred and forty pupils and sixteen teachers, besides special teachers of sewing, cookery, and wood work, and shares with the other city schools in the advantage of skilled supervision in all special studies.

During its fifty years of existence the Horace Mann School has had 1,143 pupils. A recent investigation shows that the past pupils of this school, in spite of the handicap of deafness, compare very favorably in wage-earning capacity and social and economic standing with their hearing brothers and sisters of elementary school education.

Ideals of education are changing and no one can prophesy what another half-century will bring to the education of the deaf, but the forward look and the spirit of progress belong to no time or age, and these will lead the Horace Mann School ever onward to something better in the future, as in the past.

MABEL ELLERY ADAMS,
Assistant Principal of the Horace Mann School,
Boston, Massachusetts.

THE EDUCATION OF VERA GAMMON [1]

[The chief feature of our Commencement Exercises last May was the graduation of Vera Gammon, Minnesota's remarkable deaf-blind girl. Twelve years ago she came to us with a mind devoid of intelligent expression. Step by step, though with amazing rapidity, the darkened mind was developed, and having completed the full course of study of our school, she has left us a well-educated young lady, with an understanding and use of the English language, a knowledge of history, science, and mathematics, and a fund of general information equal, if not superior, to that of the average high-school graduate. The following brief article was prepared and read at the Commencement Exercises by her teacher, Miss Blanche Hansen, to whose untiring zeal so much of Vera's accomplishment is due.—EDITOR COMPANION.]

Vera came to us when she was ten years old. Though her eyes were not closed to all things bright and beautiful until the age of four years, and her ears to all sound a little later, all the language and speech she ever knew had slipped from her mind. This is a most natural occurrence, for the main channels through which the mind is most readily reached no longer conveyed impressions to it. But while the child mind remained dormant for six years, the brain centers nevertheless recognized a number of sensations and associated them with their respective sources, and the activities around her. There was no means of communication, however, and no light could be thrown upon these sensations until, after a few years of learning, she had sufficient command of English.

[1] Reprinted from the Minnesota *Companion* for October 8, 1919.

I started Vera on the road to learning, like any deaf child, with one word at a time, except that, instead of the word being written or spoken, it was spelled very slowly into her hand. After numerous repetitions, followed by many pointings at the object, three words were learned the first day instruction began, with no confusion between the words or the objects. But she did not take kindly to learning, preferring to play with her dolls, sew for them, or do whatever her impulses led her to do. The sense of intelligence did not respond until a few days later, but once she grasped what I was doing, progress became more rapid and repetition less frequent. In the course of the first year, Vera learned a thousand words.

I taught a number of names of common objects before I took up the names of actions, by acting them out and spelling their names at once. By combining the two, the simplest sentences were formed, thus: "A girl walked, a boy ran." Words like sour, cold, and large were taught by calling Vera's attention to the most noticeable qualities, but always in sentence forms, now that language building had begun, thus: "The apple is sour, the water is hot, snow is cold." From the simplest forms I went on to harder and longer ones, and very soon Vera could say, "I threw a ball and Miss Hansen caught it," besides asking and answering questions.

When she had advanced far enough, I gave daily items, action lessons, short stories of all kinds, nature lessons, in fact anything that interests the young. For the first three or four years I was the sole text-book, but after that Vera was ready to study the text-books used in our school. Throughout the

years, language received the utmost attention. I enlarged upon it by the various English constructions until the time was ripe to teach her to understand and use figurative speech.

Several months after she entered school, she acquired speech from an oral teacher of many years' experience, who began with one sound at a time, then combinations of sounds, simple words containing the same sounds, and finally short sentences. Later on harder ones were restored to. Her hand resting lightly on the speaker's lips and throat, Vera felt the position of the mouth and tongue in forming the sounds and words uttered, and imitated them. No matter what the means employed in speaking to her, she generally answers hearing people in speech.

Twelve years have now gone by, and what has been accomplished? In industrial work, Vera has learned to do very neat sewing, make knitted and crocheted articles, do hand-loom weaving, and assist with tasks in the home. In the educational department, she has been taught to read five different types of embossed print, to write three types on writing boards and a braille writer made for the purpose, to use the modern typewriter, and to speak and read the lips. Under my instruction, she has completed the course of study prepared for the school, and has had in addition three years of high-school work.

From the first words, *ball, doll,* and *bear,* has grown a large vocabulary, which is used intelligently in the expression of thoughts and incidents. From the simple sentence I trained her to write good compositions. She knows about the war, and is keenly alive to what is going on on the other side in an effort to bring permanent satisfying peace to a war-

weary world. At first stories for children satisfied, but she was later guided to an intense love for Longfellow, Hawthorne, Mark Twain, Scott, Tennyson, Dickens—her favorite—and Shakespeare. From a small, thin, yes, wild girl she has been led out of her prison of mental darkness into the light. To-day she is what you see her—a cheerful, intelligent young lady, with a keen sense of humor. She has reached the happiest and proudest moment of her life. She has won the goal; she is living a life of happiness.

BLANCHE MARIE HANSEN,
Late Teacher in the Minnesota School,
Faribault, Minnesota.

THE THREE DOORS TO KNOWLEDGE[1]

[We present below the graduating essay of Vera Gammon, delivered by her in signs at our Commencement Exercises last May. And we can assure our readers that it is Vera's own work, her own thoughts expressed in her own words. Her teacher made no important changes as to subject matter or phraseology, merely making a few minor suggestions and corrections. We think it is a most impressive showing of what Vera's education in our school has done for her. The reader will bear in mind that when Vera Gammon came to us, she stood at the zero point of knowledge, with the two main avenues to the mind—sight and hearing—absolutely closed to all sense perception. By the aid of the three remaining senses she has acquired an education of which people in full possession of their senses might well be proud. All honor to her and to her teacher! —EDITOR COMPANION.]

[1] Reprinted from the Minnesota *Companion* for October 22, 1919.

The deaf-blind have fewer senses than others, but their world is not so narrow as people imagine. Unless a deaf-blind girl is below normal mentally, there is no difference between her and her sisters in full possession of their senses, if given an education, except that she can neither see nor hear. An untaught deaf-blind child will learn to connect certain things in her experience with certain objects from the sensations produced. For example, sweetness with candy; the vibration she felt and the broken pieces with a dropped dish. Only after she has a means of communication can she speak of them.

For the deaf-blind there are three doors to the palace of knowledge, opened with the keys of taste, smell, and touch. The rooms are as large as the width and breadth of the world, for, through the hands of others, everything in the way of education is brought to them. Each room stands for a study to pursue. The doors of the palace are never closed, once the keys have been adjusted, for the deaf-blind are at all times seeking the light of knowledge.

Since the sense of taste is practically the same in every one I shall not say much about it. Like their hearing and seeing comrades, the deaf-blind are able to tell whether an article of food is good or bad, sweet or bitter, and well or poorly done. In some cases, the sense of taste is stronger just because the deaf-blind make more use of it. It is well known that one's perception and skill to do things increase in proportion to the training.

A great deal of information and pleasure is derived from the sense of smell. People who have a mistaken idea that one should not speak of this sense are forgetful of the fact that there are both

pleasant and disagreeable odors. When the blind and the deaf-blind talk about it, they mean no offense. They simply cannot help noticing odors. The sense is equally keen in all, only the deaf-blind use it to a greater extent. If it is an aid in our quest for knowledge, why should we not use it?

When out for walks or driving, as I take in the sweet scents of various flowers, of the pleasant woods, of damp earth, and the newly mown hay, I know that we are passing through the country. On the other hand, the odors of liquor, drugs, meat, fruits, candy, dry goods, and lumber inform me that I am in town. The person that goes past me is a man or a woman, according to whether the scent emanating is that of smoking tobacco or perfume and powder. Some of my friends are recognized this way, provided they always emit the same scent. When two persons use the same kind of perfume, I am at a loss to tell them apart until recognition comes by a touch of the hand, the manner of spelling into mine, a ring, or whatever I know one by. With strangers, I have to find a way to recognize them should we meet again. Those who impress me the most are most likely to be remembered.

The sense of smell also tells me the occupation of some workers, and what particular work one is engaged in, for example, painting, farming, baking, cooking, canning, washing and ironing the clothes, scrubbing, and cutting the grass. If not informed beforehand, I know, from the odor in the air, whose house I enter as soon as the door is opened. There is a difference in the smell of dry and dampened wood; in the scent of newly mown hay and freshly cut grass; and in rain before and after it falls.

Nurses and doctors are known by the odor of medicine. At one time a gentleman was introduced to me as Dr. ——. As the smell of medicine was lacking, I took it for granted that the title had been conferred upon him as in the case of college and university professors. It was easily explained when I learned that the doctor in question was an osteopath.

The sense of touch is the main entrance through which the deaf-blind receive the better part of their education. It must not be supposed that the senses of touch and feeling are precisely the same, for touch has to do with the use of the hands, while feeling is chiefly applied to vibrations passing through the body, or sensations like heat and cold. I do not refer to the feelings of happiness and sorrow that exist in the mind. Like the deaf, the deaf-blind are sensitive to vibrations, which differ, depending on what caused them. A book dropped on the floor makes a thud. A table moved along gives two kinds of vibrations, one stronger than the other.

It is through touch that the deaf-blind are able to make their way in familiar places, to do their work, to read embossed books, and carry on conversations. Not all my reading was done in the dot system. "Pollyanna" and other books in print, daily news from the newspaper, and magazine articles were read to me by spelling every letter into the palm of my hand.

You speak of knowing a person's moods by the tone of the voice. The touch of a deaf-blind person is delicate enough to detect the moods of others by a change in the movements of the hand muscles. This sense enables us to enjoy music to some extent. It is said that Helen Keller gets not only

the words, but the melody of songs from the lips of singers. In another state lives a deaf-blind woman whose touch is so far developed that she can distinguish some of the sounds of the piano, make a few of the rapid and slow gestures made by hearing people when listening to music, and even recognize ten pieces that she has learned.

I have heard of a young deaf-blind girl who has the use of but one sense, that of touch. It is doubtful that she gets as much out of life as those with three senses, because her sensations are necessarily limited. Nevertheless, she is doing well in school, and is considered bright.

Although I lost my sight at the age of four years, I do not recollect how things appear to the eye. One of the questions most frequently asked is if I can tell colors. For once and all I say it is utterly impossible, for to do so one must have sight. When I tell my friends that the thick, velvety petals of a purple pansy are dark purple, they rush to the conclusion that I can tell color. The fact is that I have learned those petals are always a darker hue than the thin, silkly ones, so when friends say a pansy is yellow or blue, I reason that the thick petals are a darker shade of the same color. One day I told a lady that her cotton waist was new and white, which proved correct. Despite my explanation, she declared that I could tell color by touch. In those days white waists were all the rage, and hers being new, she would, of course, want to be in style.

A well-meaning friend once said that I should not use the terms "see," "hear," and "read" instead of "feel." What lover of good reading would do

without figurative speech? It should be understood that I "see, hear, and read" with my hands, but not in the sense that you do with your eyes and ears. Hearing and seeing people do not always use these expressions in a literal way. For instance, "Anna heard from home" means that she had received a letter. One says, "I hear Wilson favors a return of the wires to their owners," when he probably read the statement in the papers. Writers say, "See what a beautiful voice she has," whereas no one can see the voice. One who says, "I saw what would happen," means that he knew it through his reading power.

In speaking of reading, how absurd for me to say, "I felt 'Jane Eyre,' " as if I had felt the girl herself. To feel a book is to pass the hand all over it to note its size, shape, cover, and paper. But to read I feel lightly the raised words, not each sign separately. I do the latter only in long new words to learn the spelling.

It is as proper for the blind to say that they saw a sea shell as that they felt one. The English language has no words for the special use of the blind. If it had, you would not understand us. Moreover, we learn of the world and life as they really are, not as they seem to our senses, so we must speak in the words you do. As a gentleman well known to the blind of this country says, "The word 'see' has two meanings—to see with the physical eye and to see with the spiritual eye—and possibly it is through the spiritual eye after all that the most of our pleasures come."

VERA GAMMON.

SCHOOL ITEMS

Akron Day-School.—A public day-school has been begun in Akron, Ohio, under the direction of Miss Gertrude Hatfield, from the Ohio School. It is in the East High School building.

Alabama School.—To the list of new teachers in the last number of the *Annals* should be added the names of Mrs. Ollie T. Hofsteater and Miss Mabel Hubbard, both of Talledega.

American School.—Miss Frances I. Brock and Mrs. Fannie C. Smith retired last June. No teachers have been appointed to succeed them, as it has been found impossible to admit more than one hundred and seventy-five pupils.

The main building has been removed, and excavations are being made for an office building by the Hartford Fire Insurance Company. Plans for the new buildings at West Hartford have been approved by the State Board of Education and Governor Holcomb, and the Building Committee will begin work at once on the new plant.

Arkansas Institute.—Miss Cecilia E. Otis, Miss Marion Stubbs, and Miss Ethel Harold have resigned to teach in the Washington State School, Mrs. Vira George Wolpert to be with her husband who has returned from service in the war, Miss Mabel B. Moylan to teach in the Maryland School, and Miss Annette Colquette to teach in the Oregon School.

Bloomington Day-School.—The day-school at Bloomington, Wisconsin, has been discontinued on account of lack of pupils.

California School.—Mr. William A. Caldwell has been relieved of the charge of a special class in order that he may devote his whole time to the supervision of all the

classes. Mr. Burton W. Driggs has a year's leave of absence from the classroom, but continues to teach gymnastics and take his turn in conducting chapel exercises. He is pursuing a course in the State University. Miss Margaret Surber has resigned to return to her home in Virginia, Miss Miriam Minister to teach in the Colorado School, and Miss Hazel Walker to teach lip-reading to deafened soldiers at Fort Davis. New teachers are Miss May B. Hallett, from the Kansas School; Miss Angie C. Kinnaird, from the Indiana School; Miss Sallie M. Blaker, from the Minnesota School; Miss Dorothy Long, from the Nebraska School; and Miss Clara B. Cooper, formerly a teacher in the California School, but more recently Principal of the Oakland Day-School.

Central New York Institution.—In addition to the changes mentioned in the last number of the *Annals,* Mr. Joseph Keating, formerly Superintendent of the New Brunswick School, which early in the war was taken over by the Canadian government as a military hospital, has been appointed teacher of the advanced class.

Cleveland Day-School.—Miss Bertha Whittaker has resigned to teach in the New York Institution. Miss Blanche E. Jones, from the Ohio School, Miss Ethel B. Warfield, from the Maryland School, and Miss Ada Irene Jones, from the Minnesota School, have been appointed teachers.

Colorado School.—Miss Mary Lyne and Miss Urania H. Sturdevant have resigned to take training as nurses, and Miss Ruth Paxson has returned to the Central Institute. Mrs. Belle Stewart and Miss Margaret Compton, both formerly teachers in the Colorado School, have returned to work here, and Miss Miriam Minister, from the California School, is added to the corps of teachers.

The School has purchased an additional tract of land adjoining its present property. The addition contains more

than twenty-three acres and thus nearly doubles the size of the grounds. A fine new fireproof building named Palmer Hall, has been erected and is now occupied by the advanced and intermediate deaf boys.

Des Moines Day-School.—A day-school was opened in Des Moines, Iowa, in September, 1918. The oral method is followed. Miss Margaret Wheeler is head teacher.

Georgia School.—Miss Ruth Darnall has resigned to teach in the Florida School. Miss Susan H. Norris has returned from the work for deafened soldiers at Cape May, New Jersey. New teachers are Miss Kathryn Taylor, from the North Carolina School at Morganton; Miss Clara M. Russell, from the Michigan School; Miss Verne Smith, trained at the Clarke School; Miss Jessie Stevens, of Cave Spring, Georgia; and Miss Christine Sanders, teacher of domestic science.

Grand Rapids School.—Miss Helen Matthews has resigned to be married. Miss Lucy Pardoe, formerly of the Maryland School, more recently engaged in occupational therapy in the United States Army, succeeds her.

Illinois School.—In addition to the changes mentioned in the last number of the *Annals,* Miss Josephine Hayden has resigned, and Miss Florence Loar and Mrs. Eliza B. Wood, both from the Michigan School, have been added to the corps of teachers. Miss Eloise Collins and Miss Emma Sellberger are appointed teachers of physical training.

Indiana School.—The following new teachers have been appointed: Miss Anita M. Lee and Miss Phoebe E. Oehler, both from the New Jersey School; Miss Elizabeth E. Givens, from the Missouri School; Miss Margaret R. Fanning, formerly of the Le Couteulx St. Mary's Institution; Mrs. F. W. Morrison, formerly as Miss Jessie Skinner a teacher in the Central New York Institution; Miss Helen Cryder,

trained at the Clarke School; Miss Ellen B. Cobb, from the Northern New York Institution; Miss Cora Armstrong, who has had experience in common schools; and Miss Hilda M. Frear, from Miss Arbaugh's School.

Iowa School.—In addition to the new teachers mentioned in the last number of the *Annals,* Miss Lillian E. Russell and Miss Ethel D. Murray, both from the Western Pennsylvania Institution, and Miss Lou E. Cornell, from the New York Institution, have been added to the corps.

Kansas School.—Miss May Buxton Hallett has resigned to teach in the California School; Miss Margaret Beck to teach in the Home School at Sand Springs, Oklahoma; Miss Edith Winchester to teach in the Vancouver, British Columbia, School; Miss Martha Hanes to attend Chicago University; and Mr. J. A. Key to work in a furniture factory at Yakima, Washington. New teachers are Miss Mary R. Russell, Miss Ada C. Thorne, and Miss Helen Crane, domestic-science teacher.

Kansas City (Kansas) Day-School.—There is a day-school in Kansas City, Kansas, as well as in Kansas City, Missouri. The former has only recently come to our knowledge, though it was opened in September, 1916. The method of instruction is oral. The teacher is Miss Keturah Stevens.

Kansas City (Missouri) Day-School.—Miss Alma Hoffman resigned to be married at the close of school in June and Miss Dene Duffy, from the Central Institute, was appointed to take her place.

Kentucky School.—Centre College, of which Mr. Augustus Rogers, Superintendent, is a graduate, conferred upon him the honorary degree of Doctor of Laws on the occasion of the celebration of its centennial anniversary last June.

Louisiana School.—Miss Margaret Hauberg has resigned to make a visit of six months or more to her native Norway. Miss Margaret McCall, Miss Merle Hamilton, and Mrs. Sophie B. Murphy have also resigned.

Manistee Day-School.—The day-school at Manistee, Michigan, begun in 1904, has been discontinued owing to lack of attendance.

Minnesota School.—Miss Sallie M. Blaker has resigned to teach in the California School, Miss Ada Irene Hobbs to teach in the Cleveland School, Miss Winnie Thompson to teach in the Oklahoma School, Miss Mathilda Schmidt to teach in the Nebraska School, Miss Ruth M. Brady to teach in the Newark School, Miss Gertrude May to teach in the Iowa School, Miss Faye Goddard to be married to Mr. Earl Giberson of Morristown, Minnesota, and Miss Blanche Hansen because Vera Gammon, the deaf-blind girl of whom she has been the special teacher, has completed her school course. Mr. Thomas Rodwell, formerly a teacher in the Minnesota School, afterwards Superintendent of the Saskatchewan School, and during the war serving in a Canadian artillery regiment; Miss Mary Kilgour, formerly a teacher in the Minnesota School; Miss Laone Dawson, from the Tennessee School; Miss Eva Stafford, and Miss Lenora Beard have been appointed teachers. Miss Antoinette Olive Peltier, instructor in dressmaking, and Miss Dorothy Pierce, instructor in domestic science, have also resigned; Miss Peltier's place is taken by Madam Beckett, of Faribault.

Mississippi School.—In addition to the changes mentioned in the last number of the *Annals,* Mr. Edward S. Foltz has resigned to teach in the Oklahoma School, and Miss Emily Asbury, trained at the Indiana School and the Central Institute, and Miss Kate Alcorn, from the Pennsylvania Institution, have been added to the corps of teachers.

New York Institution.—Mrs. Frances C. Bowker has resigned to take up housekeeping on the return of her husband from overseas service; Miss Elizabeth Bost has been granted a year's leave of absence on account of illness in her home; Mr. John H. Cloud and Miss Lou E. Cornell have retired to engage in commercial pursuits; Miss Agnes H. Farnam to teach in the Maryland School and Miss Florence McClure, teacher of art, to engage in another occupation. Mr. Frank S. Thomason has returned after two years of overseas service. Miss Bertha Whittaker from the Cleveland School and Miss Frances L. Cruser from the Austine Institution have been added to the corps of teachers. Miss Michalena Le Frere Carroll, trained at Columbia University, the New York School of Fine and Applied Arts, the Art League, and Pratt Institute, succeeds Miss McClure in charge of the department of technical and industrial art.

Newark Day-School.—Mr. M. Will Drum has retired on a pension, Miss Jeannette Davis to engage in other work, and Miss Agnes M. Finn on a furlough. New appointments are Miss Katherine C. Haerlin; Miss Ruth M. Brady, from the Minnesota School; Miss Elizabeth Cummins, teacher of manual training; and Miss Kate Z. Gaston, teacher of domestic science.

North Dakota School.—Miss Aldah H. Buchanan has resigned to be married to Mr. P. H. Manlet, of St. Paul, Minnesota. She is succeeded by Miss Elizabeth Dodge, of Devils Lake.

By an act of the last legislature all the state institutions —penal, charitable, and educational—are placed under the direction of one board of administration consisting of five members: the Superintendent of Public Instruction and the Commissioner of Agriculture *ex officio,* and three others appointed by the Governor for the term of six years at a salary of $3,000 a year.

Ohio School.—Miss Mary K. Ellis and Miss Ruth Saltzgaver were both married during the summer vacation. Miss Blanche Jones resigned to teach in the Cleveland Day-School. Miss Gertrude Hatfield, supervising teaching of lip-reading in the upper grades, resigned to teach in the Akron Day-School. Miss Lucile Landis, normal student of last year, succeeded Miss Ellis, and Miss Berneda Laymon, normal student last year, succeeded Miss Saltzgaver. Miss Bertha McCain, normal of this year, succeeded Miss Jones. No one has been appointed to take the place of Miss Hatfield. Mrs. Pauline Marquis, teacher of English in the high school, resigned when her husband returned from the war. Miss Mary M. Frost, former teacher of English in the public schools, was appointed in her place. Miss Gertrude Webster, Miss Ruth Behymer, Miss Ruth Brubaker, and Miss Bertha McCain are the new normals. Mr. John Randall, head of the cabinet department, resigned and Mr. E. M. Haines was appointed to take his place. Mr. Harry Apgear, artistic decorator and painter, resigned to live on the farm.

During the summer vacation, when the Methodist Centenary was held in Columbus, the school was used by the delegates as sleeping quarters and several hundred were taken care of. Also during the National Encampment of the Grand Army of the Republic five hundred and sixty veterans slept in the school. The net proceeds were $2,137, which went to much needed repairs about the buldings.

Oregon School.—In a previous number of the *Annals* (vol. lxiii, p. 389) we mentioned the useful *Class Helper*, the periodical published weekly during the school year at the Oregon School under the direction of Miss Minnie E. Morris, which is devoted exclusively to the schoolroom work of the several classes. At the close of the school year the numbers printed during the year were bound up into two volumes and these were given to all the pupils to take home with them. On the cover of each volume were the

name of the pupil and of his teacher, and the printed request, "Please bring this book back to school with you September 22, 1919. E. S. Tillinghast, Superintendent."

Pennsylvania Institution.—Miss Katherine Fike, from the Western Pennsylvania Institution, has been appointed teacher in the Advanced Department, Miss Dorothy Lynch in the Intermediate Department, and Miss Barbara Eisenhower in the Primary Department.

At the last meeting of the Board of Directors a special committee of five members was appointed "Committee on Centennial Celebration" in connection with the centennial exercises to be observed at the time of the Convention of the American Association and the Convention of the American Teachers of the Deaf next summer. The exact date has not yet been fixed; but it will probably be during the week beginning June 21 or June 28.

Rhode Island Institute.—Miss Gertrude M. King, from the Pennsylvania Institution; Miss Wilma Shillady, from the Texas School; Miss Helen Bailey, trained at Gallaudet College; and Miss Louise F. Morrow, from the North Carolina School at Morganton, have been appointed teachers in place of Miss Grace D. Coleman, Miss Dorothy Sayward, and Miss Edna J. Wirgman.

The grounds around the new residence building have been graded and grassed, trees have been planted along Mt. Hope Avenue, and the boys' ball ground has been re-seeded. The interior of the school building has been painted and considerable painting has been done in the old main building, which is now used as a living building for the pupils, who are in charge of the matron, the assistant to the matron, the nurse, and six supervisors. The principal and teachers have separate apartments in the new building opened last year.

St. Joseph's Institute (New York).—Miss Mary A. Dermody has resigned to be married to Mr. Benjamin Gooch.

San Francisco Day-School.—Miss Wilma Burt has a year's leave of absence and is now teaching in the Wright Oral School; Miss Clare Montgomery has returned to the Los Angeles School; Miss Emma R. Thompson, from the Pennsylvania Institution, Miss Blanche Van Deveer, from the North Carolina School at Morganton, and Miss Florence B. Spruit, from the Nebraska School, have been appointed teachers.

The school has moved from the Golden Gate School to 2445 Fillmore Street. It is now in a building by itself, entirely separate from a school for the hearing.

Sanitorium School.—Miss Mary A. Bretz has resigned to live at home. She is succeeded by Miss Agnes Bergen.

South Carolina School.—Miss Virginia Thackston, a daughter of Mrs. M. M. Thackston of this School, has been appointed a teacher.

South Dakota School.—Mr. Howard W. Simpson, who has been the efficient Superintendent of this School for the past nine years, has resigned to engage in business. He is succeeded by Mr. Harry L. Welty, from the Nebraska School.

Sturgeon Bay Day-School.—A day-school has been opened at Sturgeon Bay, Wisconsin. The oral method is followed.

Texas School.—Mr. and Mrs. Walter J. Tucker have resigned to teach in the Washington State School, Miss Kay Louise Nagel to teach in the Oregon School, Miss Wilma Shillady to teach in the Rhode Island School, and Mrs. Max Bickler to retire from teaching for the present. Mr. Fred C. Numbers has returned from his two years' army service overseas. New teachers are Miss Bertha Eifler, from the Houston Day-School; Miss Dathene Shaw and Miss Margaret McCall, both from the Louisiana School; Miss A. E. Dunn, from the South Carolina School; Miss Lu Emma

Raymond, who returns to the work after a year's absence; and Miss Mary Clancy.

Virginia (Staunton) School.—In addition to the changes mentioned in the last number of the *Annals,* Miss Kathryn Hill, from a day-school in Kentucky; Miss Beatrice Protheroe, from the Alabama School; Miss Florence R. Williams, from the Central New York Institution; Miss Ella Warren, from the Iowa School; Miss Elizabeth Warren, from the West Virginia School; and Miss Lillian Miller, formerly of the North Carolina School at Morganton, have been appointed teachers. Mr. Robert K. Burns, a new teacher in the Blind Department, succeeds Mr. Guilford D. Euritt as editor of the *Virginia Guide.*

Virginia (Newport News) School.—Mr. and Mrs. Robert A. Bass, teachers of many years' standing, have resigned. They are succeeded by Mrs. A. R. Casey, from the Iowa School, and Miss M. Patie, of North Carolina.

Wisconsin School.—Miss Sallie M. Blaker has resigned to teach in the California School, Miss Dorothy Pierce to teach in the State Public School at Owatonna, Minnesota, Miss Winnie Thompson to teach in the Oklahoma School, Miss Bertha Sellner and Miss Ruth Brady to teach in the Newark Day-School, Miss Mathilda Schmidt to teach in the Nebraska School, Miss Antoinette Peltier and Mrs. Sue Wilson to live at home, Miss Faye Goddard to be married, Miss Gertrude May to teach in the Iowa School, and Miss Ada I. Hobbs to teach in the Cleveland Day-School. Miss Mary E. Kilgour, Miss Ruth Gable, Miss Eva Stafford, Miss Laone Dawson, Miss Leanore Beard, Mrs. C. L. Beckett, and Mr. Thomas Rodwell have been added to the teaching force.

Wright Oral School.—Miss Clara Louise Rockwell, trained at the Pennsylvania Oral School, afterwards a teacher in the Pennsylvania Institution, and recently connected with

the work for deafened soldiers at Cape May, and Mrs. Sara Small Temple, formerly Principal of the Mystic Oral School, have been added to the staff of instructors.

German is no longer given and this year there will probably be no class in Spanish, but French is continued. Dr. La Crosse is giving a course in psychology.

MISCELLANEOUS

News from Germany.—For more than three years we had no authentic news from Germany, the latest issues of the *Blätter für Taubstummen-bildung* and of the *Organ der Taubstummen-Anstalten in Deutschland* that reached us having been received in the spring of 1916. Now we are glad to have again the *Blätter*, which is still ably edited by Mr. Gustav Wende, Director of the State (formerly Royal) Institution at Berlin. Apparently its publication was not interrupted during the war. The *Organ* however seems to have ceased publication, and we suspect that its venerable editor, Johann Vatter, long the foremost champion in Germany of the exclusively oral method, has died. Next to the *Annals*, the *Organ* was the oldest periodical relating to the deaf in existence; we are sorry to lose it.

The *Blätter* for September 15 contains the names of sixty-five German teachers and sons of teachers of the deaf who were sacrificed in the war. Otherwise, in the few numbers of that periodical that have come to us since communication with Germany has again become possible, we find little indication of how the schools of the country were affected by the war. In the articles contributed there appears to be a higher appreciation of the value of the sign language than formerly, and opinions seem to be expressed with greater freedom; but perhaps we cannot judge correctly from the few numbers that have thus far reached us.

Nitchie's Lip Reading.—A new revised and much enlarged edition of the late lamented Edward B. Nitchie's valuable "Lip Reading Principles and Practice," reviewed in the *Annals*, vol. lvii, page 526, has been published by the Frederick A. Stokes Company, New York, in a 12mo volume of xiv and 324 pages, price $1.75 net.

Moving Pictures versus Reading.—Much has been said in commendation of moving pictures as a means of entertainment and education for the deaf. The *California News* for May, 1919, points out the danger of their being made a substitute for reading:

> Sometimes we are half inclined to look upon the movies as a doubtful blessing, in so far as their educational value is concerned. We are speaking, of course, with reference to our special field of education. We have no hesitation whatever in saying that if the movies are taking the place of reading, then indeed they are positively a detriment and not an aid to the deaf pupil. It is the same old question of presenting ideas in signs instead of language. The deaf pupil needs above all others to be a reader of newspapers and books, if his intellect is to be developed. The hearing child acquires English without effort. It flows into his ears in a constant stream. An idiom—the most idiotic of idioms—presents no difficulties to him. He has learned its peculiar significance by its natural and frequent utterance amid associations which help to impress it on his mind. When he reads a story, the dialogue has a vivacity that necessarily is lacking in the case of the deaf child. (We are speaking relatively of course. Heaven knows there are plenty of hearing children who don't know how to read as they should.) One of the greatest aids to the deaf child's acquisition of English is to be found in this development of a fondness for reading stories. Comes now the movie and presents the story in most attractive form and with the least possible language. The deaf child can sit back at his ease, and with no mental effort give himself up to the enjoyment of the play. The occasional interlarding of printed information tempts to some exertion, but not enough to count for much. We must admit that we have not noticed any diminution of interest in books and papers as yet, but it may be that these older pupils whom we have in mind as we write acquired a taste for literature before motion pictures had attained anything like their present vogue. How it will be in the case of the younger generation remains to be seen.

"Dual" Schools for the Deaf and the Blind.—Dr. Best, in his work entitled "The Blind," mentioned in the September number of the *Annals*, says, concerning "dual" schools for the deaf and the blind:

These schools are found in nine states: California, Colorado, Florida, Idaho, Montana, South Carolina, Utah, Virginia, and West Virginia. In a number of other states the blind and the deaf were educated together for a greater or less length of time—either the two classes being provided for jointly from the first or a department for the blind being later created in the school for the deaf. In the course of time in these states the two classes have been separated and distinct schools for the blind have been set up.

As a general thing, this union of the blind with the deaf has been regarded as an unfortunate policy. It has been declared: "They have nothing in common in the matter of education, and the bringing of the two classes together is a prolific source of friction and compromise."[1] Against the arrangement educators of both classes have protested, though the strongest opposition has come from those concerned with the instruction of the blind. In a dual school it almost necessarily results that injustice is done to the blind. Even though unintentionally, they are found to be discriminated against. The blind are always in a minority, and are often considered as only a department or a class in an institution designed primarily for the deaf. Consequently they are likely to receive less attention and care than are their due, and their interests are not infrequently neglected.[2]

However, this arrangement has not been adopted as a deliberate policy on the part of the state. It was begun when the schools were young, when pupils of both classes were few, and when, because of the ignorance of the public as to their respective needs, one plant was thought to be adequate for both. The plan was usually allowed to continue until the resources of the state and the number of both classes had increased to such an extent as to make obvious the wisdom and the necessity of separate institutions. In other states where the dual institution is still retained, it is in all probability only a question of a few years until provision will be made for the

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[1] Report of Colorado School, 1908, p. 20. The plan has also been characterized as "mentally and physically depressing." Proceedings of National Conference of Charities and Correction, 1882, p. 211.

[2] At one of the earliest conventions of the American Association of Instructors of the Blind the following was enunciated: "(1) Deaf-mutes and the blind differ from each other even more widely than

separate education of the two classes; and eventually there will be independent institutions for each in all the states.

Higher Education and the Work of the Schools.—In an an address delivered at Northampton, Massachusets, October 10, 1917, at the commemoration of the fiftieth anniversary of the Clarke School, Dr. Caroline A. Yale made the following quotation from "a paper presented to an association of teachers on the subject of Literature for Boys and Girls by Miss Katharine Fletcher, whose broad scholarship and enthusiasm as a teacher enabled her to accomplish for this school, and we believe for the schools of the country, a work of great and lasting value."

It is good that even a few persons whose studies must be carried on in the face of such difficulties should be able to get their share of the best that our highest schools, our one college for the deaf, and our various colleges and universities for the hearing have to offer to the most favored youth of the nation—good, exceedingly good for them, and a perpetual and measureless inspiration to all of us; but, after all, our deepest reason for rejoicing lies in the fact that "the larger hope" is for the many and not for the few. Scientists tell us that every drop of water down in the depths of the ocean is stirred by the mysterious force which lifts the tidal wave high up on the land; so every onward movement in the uplifting of any class in society is sure to affect the individuals in that class from the top to the bottom. A higher ideal for the highest means a higher ideal for the lowest; and herein is the full significance of the change

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either class differs from those having all their senses; these differences, constitutional or incidental, are such that they cannot be intimately associated without unpleasant results; (2) the modes of instruction peculiar to each are entirely unlike and incompatible; (3) when both classes are instructed together, the mutes, being usually more numerous than the blind, are likely to engross a still larger proportionate share of the attention of the officers; (4) the experience of the institutions for both classes shows that, while the department for mutes prospers, and its inmates increase with the population, the growth of the blind department is almost invariably retarded." Proceedings, 1871, p. 87....On the other hand a favorable word for the connection has been heard now and then. See Proceedings of American Association of Instructors of the Blind, 1915, p. 61.

which the years have wrought. It is not that here and there an exceptional climber has reached the mountain top, but that the great multitudes are a little farther up.

To only a very few teachers is the privilege vouchsafed of having anything to do directly with the higher education of the deaf. The great majority of us are engaged in very elementary work, but it is good to feel that we are making it possible for somebody else to go on with a certain number of our pupils from the point where we stop, and build up the fair fabric of an education which shall include a considerable acquaintance with the world's great literature. It is better still to feel that what is so good for the future collegian is just as good for the child who drops school work when he says good-bye to us. Indeed, it is his duller life which stands, perhaps, in the greater need of the imaginative quickening, relatively small though it be, which will result from any comprehension of even a few of the masterpieces of the human imagination.

The Reading Habit.—Dr. Alexander Graham Bell, President of the Corporation of the Clarke School, says in the Fifty-first Annual Report of the School:

Books have hitherto had very little part in the education of the deaf. The literature presented to deaf children is usually prepared by the teachers and consists of stories and statements in very stilted language, in which such words alone are used as are supposed to be within the comprehension of the child. Ordinary books and magazines fairly bristle with words and idiomatic expressions which are beyond the deaf child's knowledge; so it was very generally felt that the place for such books was at the end of the deaf child's school course and not at the beginning.

The Clarke School has made a very important innovation in this practice, by using ordinary books from the very first. These do not take the place of the special literature provided but supplement it.

The hearing child by the constant repetition of words and idiomatic phrases to his ear gradually acquires a complete knowledge of his mother tongue. The deaf child requires a similar repetition to his eye; and the most practicable method of giving him this necessary repetition is through the reading of books. The speed of silent reading so far exceeds the speed of speech that a deaf child can read, in an hour or so, more words than a hearing child hears in the course of a day. Here lies the great hope for the deaf child. By reading, reading, reading, he can obtain the repetition of words to the eye that is essential to the complete mastery of the English language.

It is one of the unique features of the Clarke School that the importance of forming the *reading habit* has been fully recognized as a means of improving the language of the deaf child and of increasing his power to apply context to the reading of the lips.

The school library contains many books that are of fascinating interest to children if they can only be induced to read them; and the parents and friends of the pupils are urged to supply the pupils with books and magazines and newspapers of their own. The pupils are permitted and even encouraged to bring books and magazines to the dining-room and amuse themselves by reading at the table. Every effort is made to stimulate the reading habit; and doubtless a good deal of the success of the Clarke School in imparting a good knowledge of language, and the power to read the lips, has been due to this plan.

The Eleventh Conference.—The following note from Mr. J. W. Jones, President of the Conference, dated November 6, 1919, explains itself:

The Executive Committee has decided it is best to postpone the Conference. The coal strike has made everything, including transportation, so uncertain that we fear the attendance will be greatly reduced. In fact, there is strong evidence of that now. A letter will be sent out later naming a more convenient date. Everything looked fine for the Conference and personally it gives me great grief to postpone it.

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